

**ON BRIDGING THE GAP BETWEEN THEORY AND PRACTICE: A CONCEPTUAL ANALYSIS
OF PRACTICE IN RELATION TO A TEACHER PROFESSIONAL LEARNING PROGRAMME AT
STELLENBOSCH UNIVERSITY**

by

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Declaration of originality

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Dedication

I dedicate this thesis to my mother Ms K Jeram and my late father Mr D Jeram.

Thanks for all your love, support and encouragement.

Hope you are proud.

Abstract

There are extensive efforts to improve the quality of teaching and learning of teachers in South African schools. The South African government has experienced numerous challenges to address the educational neglect of the previous 350 years. Since 1994, there have been curriculum changes coupled with various training initiatives, to enhance the capacity of teachers in South Africa. The focus of these training initiatives has been on improving the efficacy of teachers. However, many of these training initiatives have been decontextualised and without support to teachers, that is, these teacher training sessions took place outside of the context within which the teachers practice their profession and without the required support to make the paradigm shift from learning as a finite activity, to learning as a lifelong activity. It has now become necessary to explore other means of teacher professional learning to make this paradigm shift.

Practice-based professional learning has increasingly been offered as an approach to continuous professional learning through which the impediments (overly theory-laden contents, not relevant to the context within which teacher work, no clear link between theory and practice) of conventional mostly transmission-mode training could be addressed. After an in-depth survey of the literature as well as critical reflection on own practice, the intention of this research was to find ways of improving continuous teacher professional learning initiatives by utilising a practice-based approach to teacher professional learning, using practice theory as a theoretical and conceptual framework.

Using conceptual analysis and phenomenology as research paradigms, this study explored the current research on practice theory and offers suggestions on how to improve the efficacy of teacher professional learning programmes within the South African context. The study examined the effectiveness of the current abstract, theory-laden modes of teacher professional development initiatives in South Africa, and suggests alternative ways of effective professional learning that has been proved to elicit changes in teachers' practices, taking into account the contexts within which teachers learn while they interact with others on practice-based issues. This study therefore recommends a practice-based professional learning approach where teachers could learn in and from practice rather than in preparing to practice.

Opsomming

Daar is grootskaalse pogings om die gehalte van onderrig en leer van onderwysers in Suid-Afrikaanse skole te verbeter. Die Suid-Afrikaanse regering het reeds talle uitdagings om die opvoedkundige verwaarlosing van die voorafgaande 350 jaar uit te wis, die hoof te bied. Sedert 1994 was daar kurrikulumveranderings, tesame met verskeie opleidingsinisiatiewe, om die kapasiteit van onderwysers in Suid-Afrika te verbeter. Die fokus van hierdie opleidingsinisiatiewe was om die doeltreffendheid van onderwysers te verbeter. Baie van hierdie opleidingsinisiatiewe is egter gedekontekstualiseer en sonder ondersteuning vir opvoeders, met ander woorde hierdie opvoeder opleidingsessies het plaasgevind buite die omgewing waarin die onderwysers hulle beroep beoefen en sonder die nodige ondersteuning om die paradigmaskuif te maak vanaf leer as 'n eindige aktiwiteit na lewenslange leer. Dit het nou nodig geword om ander maniere van onderwysers se professionele leer te verken, ten einde hierdie paradigmaskuif te maak.

Praktykgebaseerde professionele leer word toenemend aangebied as 'n benadering tot deurlopende professionele leer waardeur die belemmerings (uitermate teoriegelaai inhoud, nie relevant vir die omgewing waarin onderwyser werk nie, geen duidelike verband tussen teorie en praktyk nie) van konvensionele opleiding hoofsaaklik met behulp van die oordragmodus die hoof gebied kan word. Ná 'n grondige literatuurstudie sowel as kritiese besinning oor eie praktyk, was dit die bedoeling van hierdie navorsing om maniere te soek om deurlopende professionele leerinisiatiewe vir onderwysers te verbeter deur van 'n praktykgebaseerde benadering tot professionele leer vir onderwysers gebruik te maak met behulp van praktykteorie as 'n teoretiese en konseptuele raamwerk.

Deur van konseptuele analise en fenomenologie as navorsingsparadigmas gebruik te maak, het hierdie navorsing ondersoek ingestel na die huidige navorsing oor die praktykteorie, en bied dit voorstelle oor hoe om die effektiwiteit van onderwysers se professionele leerprogramme in Suid-Afrika te verbeter. Die navorsing het die effektiwiteit van die huidige abstrakte, teoriegelaai modusse van professionele ontwikkelingsinisiatiewe vir onderwysers in Suid-Afrika ondersoek en stel 'n alternatiewe wyse van doeltreffende professionele leer voor wat reeds bewys het dat dit veranderinge in onderwyserspraktyke teweeg kan bring, met inagneming van die omgewings waarin onderwysers leer terwyl hulle met ander oor praktykgerigte vraagstukke in interaksie tree.

Hierdie proefskrif beveel 'n praktykgebaseerde professionele leerbenadering aan waar onderwysers in en van die praktyk kan leer eerder as in voorbereiding vir die praktyk.

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List of acronyms and abbreviations

ACE	Advanced Certificate in Education
ADE	Advanced Diploma in Education
AHEC	Area Health Education Centre
ANA	Annual National Assessments
BA	Bachelor of Arts
BEEd	Bachelor of Education
BSc	Bachelor of Science
CA	curriculum advisor
CAPS	Curriculum Assessment Policy Statement
CELEMUS	Centre for Leadership and Management at Stellenbosch University
CNE	Christian National Education
CPL	continuous professional learning
DBE	Department of Basic Education
DNE	Department of National Education
DoE	Department of Education
ETDP SETA	Education, Training and Development Practices Sector Education and Training Authority
FET	Further Education and Training Phase
GET	General and Education Training Phase
HDE	Higher Diploma in Education
HONS	honours
ICT	Information and Communications Technology
IMSTUS	Institute for Mathematics and Science Teaching at Stellenbosch University
IP	Intermediate Phase
NCS	National Curriculum Statement
NEEDU	National Education Evaluation and Development Unit
NSC	National Senior Certificate
OBE	outcomes-based education

PCK	pedagogical content knowledge
PD	professional development
PDP	professional development programmes
RME	Realistic Mathematics Education
RNCS	Revised National Curriculum Statement
SA	South Africa
SACE	South African Council of Educators
SACMEQ	Southern Africa Consortium for Monitoring Educational Quality
SBI	school-based intervention
SEN SEC	Senior Secondary
SP	Senior Phase
SU	Stellenbosch University
SUNCEP	Stellenbosch University Centre for Pedagogy
SURMEPI	Stellenbosch University Rural Medical Foundation
SWOT	strengths, weaknesses, opportunities and threats
TIMSS	Trends in International Mathematics and Science Study
TPL	teacher professional learning
UPP	University Preparation Programme
WCED	Western Cape Education Department

Chapter 1: Orientation and background

1.1 Introduction

There are extensive efforts to improve the quality of teaching and learning of teachers in South African (SA) schools. The new SA democracy has and still is experiencing numerous challenges to address the educational neglect of approximately the last 350 years. Since the onset of our democracy in 1994, there have been curriculum changes coupled with various training initiatives to enhance the capacity of teachers in South Africa. The focus of these training initiatives has been on improving the efficacy of teachers. However, many of these training initiatives have been decontextualised and without support, that is, these training sessions took place outside the context in which the teachers practice their profession and without the required support to make the paradigm shift from learning as a finite activity to learning as a lifelong activity. It has now become necessary to explore other means of teacher professional development to make this paradigm shift.

1.2 Motivation for the proposed research

Having worked as a teacher and facilitator, after 1994, participating in various professional development programmes focussing on in-service training for teachers, exposed me to much of the curriculum changes happening within teaching – some good, but most of them perplexing to myself, and teachers.

Most changes within the curriculum were based on sound pedagogical theories, but the implementation, on the part of the national education department, was poor and the execution became confusing for teachers. Many teachers were not prepared to embrace the changes as they saw these changes being foisted upon them with no consultation or consideration whatsoever about the challenges they were facing in the classroom. These included large classes, ill-disciplined learners, a lack of teaching resources, and a lack of professional support – in short, the training was devoid of addressing and supporting their teaching contexts.

After 1994, the school curriculum was changing rapidly to address the inequalities of apartheid, moving away from a behaviourist learning approach to a more constructivist learner-centred approach, with which teachers were not fully au fait. The curriculum was changing at such a rapid pace that there was not sufficient time for teachers to adapt to these changes; thus, various professional development programmes (PDP) were started within schools funded by private donors and government education departments to assist teachers in dealing with these pedagogical changes.

However, 24 years into our new democracy, our national tests, such as the Annual National Assessments (ANAs) for Grades 3, 6 and 9, and our school-leaving examinations for Grade 12, paint a bleak picture in terms of learners' progress in literacy and numeracy for Grades 3, 6 and 9, and Mathematics and Science in Grade 12. Despite slight improvements, the ANAs still indicate that less than a quarter of all Grades 3, 6 and 9 pass these literacy and numeracy tests and in Grade 12, less than a third pass Mathematics and Science. If the intention of the new curricula was to improve teaching and learning to afford learners improved opportunities for learning, then somehow we have lost our way.

There may be several factors associated with this problem, but the intention of this research was to explore this problem from a teacher development perspective and to analyse what went amiss during these professional development programmes, whilst trying to improve teaching and learning after 1994. South African educational researchers, such as Jansen (1998) and Robinson (2002) note that during the training of teachers to implement these curricular changes, education officials conducted training sessions that were once-off information sessions devoid of teaching practice, constraint for time, and more about policy implementation than teaching and learning.

As a recipient of these training sessions, during my teaching tenure from 1990 to 2002, it was more about complying with policy rather than about improving my teaching practice. For many teachers, having to make the paradigm shift from a teacher-centred perspective to a learner-centred one was problematic. Many teachers were trained in the behaviourist philosophy of Christian National Education, based on the principles of Afrikaner Nationalism during apartheid (Davids, 2015), and did not understand the new philosophical and theoretical perspectives of constructivism, which formed the basis for the pedagogical changes of the new curricula.

Apart from the curriculum changes, which were driven by eliminating offensive apartheid content and pressures to ensure curriculum renewal to build, in the long term, an inclusive and economically active society (Jansen, 2001:43), the new government had to deal with many issues which affected teaching practice and schooling. According to Chisholm (2005:213), one of the issues affecting the quality of teaching and learning in schools was the redistribution of teachers in an attempt to solve the inequities between rural and urban schools. This resulted in teachers moving from one specific context to another – without support. Another was the upskilling of unqualified teachers, teachers with matric (Grade 12) plus less than three years of teacher training, to qualified teachers, having a matric plus four years of teacher training. It became the responsibility of universities, in consultation with government, to improve the qualifications of teachers by offering new teacher training courses – and universities received sizeable subsidies from government to conduct these courses.

However, after evaluating some of these teacher education programmes, the National Education Evaluation and Development Unit Report of 2012 (NEEDU, 2012), focusing on the state of schooling in South Africa, listed concerns about pre-service and in-service teacher education. In the report, provincial and district officials made it clear that they were dissatisfied with the quality of newly and current qualified teachers, indicating that there was a disjuncture between the skills needed for schools and the content knowledge of new and current teacher graduates. Educational managers from various provinces and educational districts indicated that afternoon workshops and cluster sessions, used to train in-service teachers, were proving ineffective in most instances (NEEDU, 2012).

After evaluating examples of successful teacher professional learning programmes in various provinces in South Africa, the NEEDU (2012) report acknowledged the successes of these programmes but inferred that, at that stage, there was still much work to be done on bridging the gap between theory (academic input) and practice (teaching). The report recommended that the Department of Basic Education (DBE) commission a study to investigate alternative modes for effective teacher education. This recommendation of seeking effective models for teacher education resonated strongly with researchers Boud and Rooney (2011), Webster-Wright (2009), Raelin (2007) and Schatzki (2001) aligning themselves with the idea of teacher professional learning entrenched in practice or a practice-based approach.

My motivation for this research stemmed from this NEEDU report and attempted to explore the current challenges around teacher development in South Africa, and suggests an alternative approach – called the practice-based approach to teacher professional learning – to current models of teacher development in South Africa. The intention of this research was to explore the notion of practice theory and the effect it could have on closing the theory–practice gap, thereby improving the efficacy of teachers.

1.3 Background to the research

To understand teaching in the SA context, and make sense of what I intended to achieve in this research, allow me to sketch the scenario as part of the background for this study. Before 1994, the education system for all races was based on a particular Afrikaner form of Calvinist principles called Christian National Education (CNE) (Davids, 2015:3). The curriculum was prescriptive in that it promoted knowledge transmission through rote learning a defined body of knowledge, viewing the teacher as the knowledge authority. Thus, a teacher-centred mode of teaching was implemented, stifling creativity and knowledge construction. The period after 1994 is viewed in South Africa as the post-apartheid era, as the first democratic elections were held in 1994. The euphoria surrounding that moment was one of ‘all will be well’, socially, economically, politically and educationally. Disparities will be something of the past and we will grow as one nation, not separate and equal but just equal.

From an educational perspective, the drive was to create one national education department in contrast to the 19 education departments, which existed before 1994, during apartheid. Instead of four education Acts, namely the National Education Policy Act (1967) for whites, the Bantu Education Act of 1953 for blacks, the Coloured Persons Education Act of 1963 for coloureds and the Indian Education Act of 1965 for Indians, there was one new National Education Policy Act (1995), that would tend to the educational needs of all races in the post-apartheid South Africa (Christie, 1991:175).

The challenge for the new democratically elected government was to introduce a new school curriculum that would address concerns around efficiency, content and purpose, but at the same time deal with the social and economic disparities of apartheid (Davids, 2015:2). With the enactment of the National Education Policy Act (1995), came three national curricular reform initiatives (Jansen, 1998:321):

- the first was to remove the racially offensive and outdated content implicit in the apartheid curriculum;
- the second was to introduce continuous assessment in opposition to the formal examinations, which perpetuated rote learning; and
- the third – probably the boldest move – was to introduce outcomes-based education (OBE), focusing on outcomes linked to skills at the expense of content.

From a teaching perspective, the introduction of OBE saw teaching move away from the teacher-centred approach towards a learner-centred approach with knowledge transformation instead of knowledge transmission (Chisholm 2005; Christie, 1991; Jansen, 1998). Thus, teachers who were trained in the teacher-centred mode of teaching before 1994 now had to be reskilled into utilising a learner-centred approach. However, as Chisholm (2005:213) notes, the post-apartheid government inherited a group of teachers who showed large disparities on the basis of qualifications, class sizes and teacher: learner ratio.

It was thus no surprise that teachers struggled with the new terminology of OBE, such as 'objectives', 'outcomes' and 'outputs', and discovered that they had no access to resources or information and they were overburdened administratively, as the process was tending heavily towards compliance rather than teaching, and had very little understanding of the idea of continuous assessment (Chisholm, 2005; Jansen, 1998). Workshops to upskill teachers in OBE were episodic and finite in nature, not addressing teaching but rather policy understanding and implementation (Robinson, 2002:295). Teachers also struggled with the descriptive nature of OBE in that it was skills-based rather than content-focused. This allowed teachers carte blanche in developing their own learning programmes based on the description of the skills outlined in the policy documents and linked to any grade-appropriate content – teaching and learning were open and non-specific (Davids, 2015:3).

Seemingly, the curriculum went from prescriptive to descriptive, and the education officials were now tasked with retraining teachers to implement OBE. The curricular changes after 1994 were paved with good intentions, as the key objective was to create a skilled society to transform the new South Africa into a productive and economically sustainable society.

However, given the fact that there were more under-qualified, as well as unqualified teachers than qualified teachers, made retraining the teachers a daunting task. Coupled with the cascade model of training (Robinson, 2002), this saw teachers becoming more confused as the model entailed a filtering down of information. Core groups of teachers were trained in the new curriculum. They, in turn, had to train education district officials and they, in turn, had to train teachers. The cascade model allowed information to cascade or filter down, but the original ideas and principles were watered down or misinterpreted along the ranks. This resulted in a lack of confidence in knowledge and understanding for the trainers (Robinson, 2002:294).

After teachers and researchers had highlighted all the issues and challenges around OBE, the curriculum was then reviewed, and born out of this was the National Curriculum Statement (NCS) in 2002 and subsequently the Curriculum Assessment Policy Statement (CAPS) in 2013. All this revision was designed to find a solution for the outcry from teachers for more structured content and less generic outcomes. There was certainly no point in teaching a child how to count if he or she did not know what to count. Currently (i.e. 2018), CAPS is based on a back to basic approach in that there is a well-defined body of knowledge that needs to be assessed regularly – be it in a formative or summative manner – alluding very much to CNE; thus, it seems to revert to being prescriptive. However, the unintended consequence of these curricular changes and retraining of teachers left our current educational system none the richer or stronger.

Year on year, various reports, such as the Trends in International Mathematics and Science Study (TIMSS) 2011 Report (Mullis, Martin, Foy & Arora, 2012) and the Global Information Technology Report 2014 (Bilbao-Osorio, Dutta & Lanvin, 2014) rate SA learners as the weakest in Mathematics. At local level, the SA National Senior Certificate (Grade 12 or matric) results paint an even bleaker picture. Although these issues will be outlined in more detail in this thesis, as evidence of this bleak picture, Table 1.1 below (DBE, 2015) indicates the average Mathematics results for our learners, from 2012 to 2014, using the ANAs in Grades 3, 6 and 9.

Table 1.1: ANA Mathematics achievement of learners for Grades 3, 6 and 9

GRADE	PERCENTAGE OF LEARNERS ACHIEVING 50% OR MORE		
	2012	2013	2014
3	36	59	65
6	11	27	35
9	2	2	3

Source: DBE (2015)

As the pass mark is 50%, Grade 9 paints a dismal picture, considering that Grade 9 is the last year before learners enter into the Further Education and Training (FET) Phase, that is, Grades 10, 11 and 12 – the last three years of formal schooling. Table 1.2 indicates the Mathematics results from 2011 to 2014 for Grade 12, namely, the final year of the FET Phase or the matriculation examinations.

Table 1.2: Grade 12 Mathematics results 2011–2014

Mathematics key indicators

Year	Start of grade 12: total enrollment	Maths enrollment	% of matrics enrolled for Maths	End of grade 12: Total exam-takers	Maths exams takers	% of exam-takers writing Maths	Achieved at 30% and above	% at 30% and above
2011	534,498	229,371	43%	496,090	224,635	45.3%	104,033	46.3%
2012	551,837	230,022	42%	511,152	225,874	44.2%	121,970	54%
2013	576,490	245,344	43%	562,112	241,509	43%	142,666	59%
2014	550,127	231,180	42%	532,860	225,458	42.3%	120,535	53.5%

Source: Equal Education, 2015

As the pass mark at this level is 30%, the results here are no better, but what catches the eye is the decrease in the number of learners taking Mathematics. Is there thus a link between the decrease in the number of learners taking Mathematics in Grade 12 and the Grade 9 Mathematics results reflected in Table 1.1? As Mathematics is considered a gateway subject for access to university, it does have a direct implication on the number of passes in Grade 12, allowing for access to tertiary education, especially universities. In Table 1.3 (DBE, 2014), the statistics show that despite a generally high pass rate for Grade 12, the number of learners achieving a quality pass to access university (bachelor's pass) is very low (refer to % achieved in Bachelor column). Does all of this speak to the ability of learners or the ability of teachers to teach, an aspect, which will be discussed in this thesis?

Table 1.3: Percentage of bachelor's passes 2010–2014

Province	Year	Total Number Wrote	Bachelor	
			Achieved	% Achieved
National	2010	537 543	126 371	23.5
	2011	496 090	120 767	24.3
	2012	511 152	136 047	26.6
	2013	562 112	171 755	30.6
	2014	532 860	150 752	28.3

Source: DBE (2014)

After investing billions of rands on professional development programmes for thousands of teachers in South Africa, the idea was that this would be the solution to all our educational challenges, including improving pass rates for better access to higher education. However, international research (Webster-Wright, 2009) as well as local research (Spaull, 2013) indicates that professional development programmes were not achieving the desired result of creating better teachers.

In an article, “Reframing professional development”, Webster-Wright (2009) reviewed and analysed 203 articles on professional development (PD), and based on the amount of empirical research done on PD, a consensus developed within the educational research community that PD was episodic in nature, didactic in manner and devoid of context, that is, separated from the work and lived experience. Professional development programmes, under review in the article, essentially ignored the value of ongoing situated learning, leading consequently to increasing the divide between theory (education and training) and practice (work).

In a report by Spaull (2013), entitled “South Africa’s education crisis: The quality of education in South Africa 1994–2011”, one of the findings indicates that the existing body of evidence suggests that a large proportion of SA teachers have below basic content knowledge in the subjects that they teach. This is, according to Spaull (2013), largely as a result of inadequate apartheid era teacher training and the ineffectiveness of in-service teacher training initiatives. In the light of this, and following the premise that teachers cannot teach what they do not know, it follows that a system of identifying which teachers need which help is urgently required. After investing billions on PD programmes in this country, the educational challenges continue (Spaull, 2013:27).

One assumption on why the current PD programmes are not working is that the PD is a finite process with a definite starting and ending point. These programmes are linked to learning outcomes with no emphasis on how these outcomes can be integrated into practice. Webster-Wright (2009:705) therefore proposes that we reframe PD as continuous professional learning (CPL) because learning at work is different to learning by attending PD programmes and it is linked to the learning of practicing professionals. The focus of CPL is thus on 'learning' (ongoing and lifelong) rather than 'development' (finite, episodic, fulfilling a short-term need), 'holistic' (learning embedded in practice) rather than 'atomistic' (separation of learning from the context within which it is applied).

In an article on how professionals learn, Boud and Rooney (2011) suggest an approach that is based on practice theory. They argue that professional learning should be founded on the basis of what effective professionals do to continue their learning, and it should be located in the kinds of practices that can be sustained in normal work.

Boud and Rooney (2011) consequently propose that professional learning should be viewed within the framework and dimensions of practice theory, i.e. a kind of teaching and learning for teachers in which teachers become serious learners in and around their practice, rather than superficially implementing strategies and activities learnt at workshops (Ball & Cohen, 1999:4).

At Stellenbosch University, the Stellenbosch University Centre for Pedagogy (SUNCEP), after careful reflection on its current modes of delivery for teacher training, is making concerted efforts to ensure that in-service teacher training shifts from learning being episodic and finite in nature, to training that could promote lifelong learning. One of the key challenges of the teachers whom SUNCEP is currently training is the context from where they come. Challenges differ vastly from teacher to teacher and the realisation is that, although SUNCEP cannot always teach to the context, it can teach to improve the practice of teachers, in order for these practices to be adapted from context to context.

This shift in making training a lifelong experience, embedded in practice, has led SUNCEP to adopt a practice-based approach to teacher training in that it focuses on the practice of the teacher, incorporating the strengthening of the teacher's pedagogical content knowledge. Support for teachers is integral and thus each teacher is supported by a mentor on site, within his or her context. SUNCEP believes that, focusing on the teacher's practice, should allow teachers the ability to change their practices from one context to the next. It is one thing to have high levels of pedagogical content knowledge, but if you cannot adapt your practice to a particular context, then teaching could become routine and procedural.

As the manager for Teacher Professional Learning employed at SUNCEP, I have been involved in designing, developing and implementing teacher professional learning initiatives in Mathematics, Science and Educational Leadership and Management. These professional learning initiatives have, as a central characteristic, a practice-based approach consisting of contact sessions, in which the teachers are exposed to the theory (academic input) and on-site implementation with support (mentoring), in which the theory is transformed into practice, as primary components.

These practice-based training initiatives are designed to increase the pedagogical content knowledge of teachers by focusing on the practice of the teachers to bridge the gap between theory (academic input) and practice (teaching) thus assisting teachers to develop their confidence and competence in delivering the curriculum.

At the time of this study, SUNCEP had extensive anecdotal evidence of the benefits of attending our current courses using the practice-based approach to teacher professional learning, but no formal research initiatives have been conducted on the practice-based approach to teacher professional learning. This anecdotal evidence is in line with what international researchers (such as Boud & Rooney, 2011; Raelin 2007; Webster-Wright 2009) are saying about what the benefits of adopting a practice-based approach could be. This, coupled with the recommendation in the NEEDU (2012) report that much needs to be done to explore bridging the gap between theory and practice and the alternative modes of teacher education, formed the crux of this study in which practice theory was used to suggest an alternative training mode, embedded in practice, thereby creating opportunities for lifelong learning.

1.4 Statement of the problem and formulating the research questions

In contributing to the philosophical and social issues around practice, Schatzki (2001:10) claims that practice theory has begun to oppose current thinking around individualism, alluding to the idea that practices are developed collectively (socially) despite being performed individually.

Referring to social theory, the two most important aspects are totality or holism and individualism. According to Bunge (1979:13), “a society is a totality transcending its membership and is endowed with properties that cannot be traced back to either the properties of its members or the interactions among the latter”. This is where individuality ends and decisions are created by social forces rather than individualistic ideas. The individual gets lost as a result of conforming for the greater good of the society or collective (Agassi, 1975:145). Is this how learning communities function, learning as a collective for the greater good of the collective?

However, looking at societies without looking at the independence of the individual can be problematic because one has to address the actions, strategies and thoughts of the individuals within a society. Bunge (1979:13) views individualism as a society consisting of “a collection of individuals and every property of it is a resultant or aggregation of properties of its members”. Issues around self-reliance and liberty are at stake and need to be taken into account if societies are to function. The individual has the power to decide on the fate of the collective, at the expense of the greater good of the collective. Hence, this tension becomes crucial in trying to define practice, and the question is whether practices are determined or developed collectively or whether they are an aggregation of individualistic actions. We have to consider whether we learn independently or interdependently of each other.

Thus, taking into account the views of Bunge (1979) and Aggasi (1975), we have the concept of totality within social theory when viewing practice as a collective activity. On the other hand, we need to take cognisance of the individual and its identity when trying to define its own practice. As an alternative, theorists such as Schatzki (2001) see practice theory as an alternative to social theory, defining practice as: “Not only, however, do their conceptions of activity and what connects activities vary, but some theorists define practices as the skills, or tacit knowledges and presuppositions, that underpin activities” (Schatzki, 2001:11).

In a further attempt to define practice, Bazin (2010:2) describes practice as –

[A] way of doing things in situation, in the moment that is relevant to the context and its constraints.
The pole of this social dimension of practice will be improvisation ... it is the use of one's intuition facing the constraints of the moment ... the ability to call up one's experience.

From a professional learning perspective, Raelin (2007:495) argues that the purpose of theory is to inform practice, and theory loses its meaning if not reflected in practice. Raelin sees an emerging practice epistemology, which views “learning as a dialectical mediated process that intermingles practice with theory” (Raelin, 2007:506).

Boud and Middleton (2003) also make an argument for ‘intermingling’ theory and practice during the process of professional learning. They define professional learning as a set of practices of which the purpose is to realise the learning of the professional. However, many professions, including teaching, still view professional learning as attending and participating in workshops and courses divorced from the site of practice; a decontextualised version of professional learning.

Using practice theory, Boud and Middleton (2003) suggest that for any meaningful professional learning to take place learning should be integral to practice. Learning as a practice should be examined, as learning is not a practice that exists separate from other practices, and learning should be sustained and perpetuated in any given organisational context.

Ball and Cohen (1999:3), in engaging in a similar discourse, found that when any educational reform initiatives are instigated in the United States, professional learning is invoked but these sessions and workshops are often intellectually superficial, disconnected from deep issues of curriculum and learning, fragmented and noncumulative. The sessions are devoid of serious and sustained learning, and are serving only to update and enforce the status quo. These researchers further argue that traditional instruction of knowledge transference will persist in classrooms if teachers are not schooled in much more thoughtful and challenging work.

Much of what teachers need to know should be learned within the context and the moment – by implication, bridging the gap between theory and practice. Since knowledge is situated in practice, it must be learned in practice, which could make professional learning substantially more meaningful and sustainable.

As suggested by the researchers above (Ball & Cohen 1999; Bazin, 2010; Boud & Middleton 2003; Raelin 2007; Webster-Wright 2009), bridging the gap between theory and practice could be viewed as an alternative to improving teacher professional learning. One such approach that is currently suggested in the research to bridge the gap between theory and practice is utilising a practice-based approach.

Practice theorists have long debated the issue of whether social practices are based on the collective, i.e. the totality, or on the individual. Beliefs and ideas govern all practices. It is what drives individuals to act in the way they think appropriate. As Schatzki (2001:11) states:

A central core, moreover, of practice theorists conceives of practices as embodied, materially mediated arrays of human activity centrally organised around shared practical understanding. The point of the qualifier “embodied” is that, as many late twentieth-century thinkers (above all feminists) emphasize the forms of human activity are entwined with the character of the human body.

The above suggests that teaching is either a set of context-dependent descriptive actions or procedural actions, independent of context. Barnes (2001:29) builds a similar argument:

Practices are often cited in order to explain things, including notably their own enactment. It may be said, for example, that something is done because it is traditionally done, or routinely done, or done because it is part of the practice of the collective. The problem of why human beings should enact the practice is thereby completely glossed over.

The danger of using theory to inform a set of practices may lead to procedural actions versus descriptive actions; knowing what to do versus knowing how and when to do it. Does theory then inform practice or does practice inform theory? Barnes (2001:27) attempts to scope out the theories of practice. He asserts the following:

- no simple either/or contrast can be made between ‘theory’ and ‘practice’;
- no indefeasible distinction can be established between visible external practices and invisible, internal states;
- any attempt to give satisfactory description of social life must make reference to much else besides practice; and
- practice does not account for its own production and reproduction.

Given the fluid, dynamic and context-dependent nature of teaching, I tend to agree. Teaching is not a rigid practice, but one must allow your practices to evolve when dealing with the ever-changing contexts in which teachers find themselves. A theory is not going to account for dealing with a specific context. Focusing on the practices within that context, could offer a solution. Within this context, central to understanding practice is that practices involve social interactions. Kemmis (2011:143) asserts that teachers and learners are co-participants in the process of teaching. A teacher develops a set of practices, unique to his or her contexts, and adapts that set of practices if in a different context – a skill that no set of theories can determine.

However, MacIntyre and Dunne (2002:5) state, “teaching itself is not a practice, but a set of skills and habits put to the service of a variety of practices” – that is, teaching per se cannot be defined as a practice as the context for teaching varies. However, the ‘what we do’ in teaching, the activities themselves, could possibly be defined as a practice, for example, the adaptation of one teaching context to another, is made up of a set of practices. In disagreement with MacIntyre and Dunne (2002), Noddings (2003:248) argues that teaching can indeed be considered a practice. According to Noddings (2003:248), we need to consider what teachers do, and why teaching is a practice. She argues that teaching is not a means to something, but a relational practice, in that besides bestowing knowledge on the learner, a teacher must be committed to building and sustaining relations of trust, care and commitment. Thus, to Noddings (2003:250), it is not just a set of skills and habits, but also the act of bestowing intellectual competence well beyond the teachers speciality.

Good teachers, according to Noddings (2003:243), practice when they go beyond the sole end of teaching. When teaching becomes relational and when subject matter learning is put aside in the interest of helping learners to understand issues more central to everyday life, then teaching becomes a means of producing critical and independent thinkers to serve the greater good of society. In addition, what do ‘bad’ teachers do? Is their teaching non-relational because they do not have the ability to practice and go beyond the sole end of teaching?

As a researcher, finding mechanisms to minimise the theory–practice gap would entail focusing on making the paradigm shift from professional development to professional learning (Webster-Wright, 2009). Learning should not be a finite experience but a lifelong experience of improving one’s practice, for the greater good of one’s craft. In order to do so, learning should be contextual in nature and not be removed from the site of practice. Developing practice should be about developing a set of descriptive actions as opposed to procedural actions ((Barnes, 2001), in order not just to enforce the status quo, but also reinvent it relevant to the context and its constraints within which teachers may find themselves. Using a practice-based approach, as researchers Boud and Middleton (2003), Boud and Rooney (2011), Raelin (2007), Bazin (2010) and Webster-Wright (2009) inform us, could contain the mechanisms to minimise the theory–practice divide.

The purpose of this study was therefore to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. This was an attempt to understand what professional learning is for teachers, and what the implications are for their practice within teacher education programmes.

My main research question was thus:

What influence does the concept of practice have on bridging the divide between theory and practice on a practice-based teacher professional learning programme within Stellenbosch University?

The following sub-questions were addressed in further support of the main question:

- What are the philosophical and epistemological dimensions of practice theory?
- What influence do these philosophical and epistemological dimensions of practice theory have on conceptualising the components of a practice-based teacher professional learning programme?
- From the literature, what are the components for an effective practice-based teacher professional learning programme?
- What are the current successes and challenges of teacher professional learning programmes utilising a practice-based approach within Stellenbosch University?
- How can these challenges and successes inform teacher professional learning policies within an SA context?

1.5 Conceptual and theoretical framework

Hirst and Peters (1970:3) define philosophy as follows: “Philosophy, in brief, is concerned with questions about the analysis of concepts and with questions about the grounds of knowledge, belief, actions and activities.”

This gives rise then to two important aspects of philosophy, namely the importance of conceptual analysis in understanding the meaning of concepts, and probing the extent of the knowledge entrenched in the concept to set off the enquiry (Hirst & Peters, 1970).

In order to understand the process of conceptual analysis, we must determine what a concept is. According to Hirst and Peters (1970:3), to clarify and understand a concept is to have the ability to understand the theory or principles underlying or informing such concept and to discriminate the correct use of the words associated with the concept. In this regard, to analyse a concept, is the ability to use words or theory associated with the concept appropriately to understand the principles associated with the concept.

In trying to understand the concept of practice, the present study ventured into an explanation and examination of the words, phrases and/or theories associated with practice and the principles governing their use. Using a Socratic approach, that is, by engaging in critical reflective thought, a concept can be either weakly or strongly defined. Hirst and Peters (1970:5) define a ‘weak’ definition as something based on using a word (or words) that picks (or pick) out a characteristic that is a logically necessary condition for understanding the concept. ‘Strong’ definitions utilise more tightly controlled definitions, such as axioms and theorems, to define the concept. These are rigid mechanisms, not normally utilised to define characteristics associated with the fluidity of concepts in the philosophical sense.

Thus, from a philosophical perspective, conceptual analysis requires defining a concept within a ‘weak’ sense as it speaks to the fluidity of language use associated with the concept. It allows for determining the logically necessary conditions for the use of the words associated with the concept (Hirst & Peters 1970:4–5).

When analysing practice, we need to take into account words or theories, for example, such as teaching and learning, into the analysis. There are many other contexts, such as social or cultural contexts, that need to be taken into consideration in relation to how one understands practice, thereby assisting in clearly defining the meaning and forms of practice. Following on this, the present thesis devoted considerable time to explore various theories, terminologies, phrases and enactments, commonly associated with practice to obtain a wide understanding of the concept of practice and its associated role in attempting to understand a practice-based model of teacher professional learning, and the role it plays in attempting to bridge the gap between what we learn (i.e. theory) and how we apply our learning (i.e. practice).

According to Maxwell (2013:39), a conceptual framework or a theoretical framework is a perceived model of what one plans to study or research. It could be regarded as a tentative 'theory' of what the phenomenon is all about and the function or purpose of the 'tentative theory' is to inform the research design of the study. This also allows the research question and the subsequent sub-questions to be formulated and made explicit.

However, a conceptual or theoretical framework should not just be a review or summary of some body of knowledge on the concept under scrutiny. Maxwell (2013) asserts that this could lead to:

- a narrow focus on the literature;
- a very shallow focus on the studies or theories relating to the concept under analysis, leading to a lack of depth; and
- a simple descriptive report on the concept, lacking critical understanding and contradictions of the concept being researched; in short a conceptual framework should be 'constructed' and not 'found'.

By taking heed of these guidelines, the conceptual framework should reflect existing theories and ideas of the concept under analysis thus providing key sources of understanding about the concept, and the associated phenomenon, being researched (Maxwell, 2013:39–41).

Therefore, in an attempt to extend the debate on closing the gap between theory and practice in a teacher professional learning programme, the purpose of this research was to examine and discuss the components of a practice-based teacher professional learning programme, utilising practice theory as a conceptual and theoretical framework.

1.6 Research design and methods

As this research made use of an interpretivist or social constructivist paradigm, the research design proposed for this study was a qualitative one. According to Merriam (2009:13), "Qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world". This thesis will be about understanding the meanings that people associate with their actions or about their involvement in a phenomenon, and how they interpret it. In order for me to interpret and understand, I had to delve into the research participants understanding with a social constructivist or interpretivist world view, using the data created via semi-structured interviews (see Chapter 4), and engaging with different kinds of data analysis strategies (see Chapter 3).

The methodology employed in this research was exploratory with a view to building an understanding of the phenomenon or concept being studied. According to Creswell (2003), a qualitative research design is best used when the researcher needs to explore a phenomenon and provide insights into a concept not widely researched or understood. In the present study, the phenomenon or concepts being studied were the epistemological and philosophical dimensions of practice theory and how these dimensions could inform a practice-based approach to teacher professional learning. Thus, the methodologies or paradigms to be used in this research were conceptual analysis and phenomenology.

Conceptual analysis, according to Kahn and Zeidler (2017) and Coombs and Daniels (1991), can be considered of as a set of skills, which philosophers use to determine meanings and boundaries of concepts to enhance understanding and offer support for future research. These researchers view conceptual analysis as a form of theoretical enquiry that precedes empirical studies, thereby challenging the researcher to develop examples or cases that help to understand constructs and thus to make the distinction between related terms. When a concept is measured, clarified, agreement must be reached about the definition and understanding of such concept in order to ensure construct validity. If we cannot understand the purpose, meaning or applicability of the concept to the phenomenon, episode or event, no amount of empirical evidence will provide us with evidence to clarify the use of the concept within the phenomenon, episode or event.

For Hirst and Peters (2001:33), the point of conceptual analysis is “to see through words” to determine a better understanding of the similarities and differences of the constitutive elements of the concept. By doing so, we place ourselves, as researchers, in a position to answer questions which cannot be answered without conducting such an analysis.

As this research intended to engage with individuals and their experiences of a specific phenomenon, namely the practiced-based approach to teacher professional learning, the essence of the human experience or lived experience, as pertaining to the practice of the participants in this study was crucial. As the researcher, I thus propose phenomenology as another methodology or paradigm for this thesis. According to Creswell (2003:15):

Understanding the “lived experiences” marks phenomenology as a philosophy as well as a method, and the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meaning.

Guest, Namey and Mitchell (2013:8) state that the defining features of using phenomenology as a research lens is that it focuses on the individuals’ experiences, beliefs and perceptions about a phenomenon. In order to focus and understand these experiences, beliefs and perceptions about a phenomenon, phenomenology uses text as a proxy for that human experience.

In the present study, the empirical data was constructed through semi-structured interviews with teachers who had previously participated in a specific SUNCEP-managed practice-based teacher professional learning programme. The empirical data was used to create a rich, thick narrative to support how the elements of practice, within each component of a practice-based teacher professional learning programme, could influence teacher education programmes and enhance the professional learning of teachers. In this regard, this study relied on a conceptual analysis of key theories in relation to practice and its influence on practice-based teacher professional learning. The limited empirical evidence (as discussed in Chapter 4) was meant to support the conceptual and theoretical arguments made in this research.

Purposeful sampling was utilised as the researcher was looking for 'information-rich' participants to provide knowledgeable and informative evidence about the phenomenon under investigation. As the sample was selected, based on criteria related to and most suited for this study, from individuals located or involved in a particular event, site selection seemed the most appropriate type of purposeful sampling to be employed in this study.

Strategies that were utilised to create the empirical evidence, from the participants, required for this study, could include one or more of the following: participant observation, interviewing, artefact analysis and field observations. Using the empirical evidence, the researcher intended to provide evidence in support of developing insights into the practice-based approach to teacher professional learning, insights which could make contributions to the policies associated with teacher professional learning within the SA educational context.

McMillan and Schumacher (2006:364) state that qualitative data analysis is primarily an inductive process of organising data into categories, and identifying patterns or relationships amongst categories. Although analytical styles may vary, there is no universal process for qualitative data analysis. Once the data is analysed, the findings are generally presented as narratives and the style of the narrative varies according to the strategy of inquiry or research paradigm. Since I utilised a phenomenological lens for this research, I followed Creswell (2009:184), who suggests that with this paradigm in mind, phenomenological research involves the analysis of statements, generation of meaning units, and the creation of an essence description.

At this point, I consider it important to remind the reader that this was not an impact or evaluation study of a practice-based teacher professional learning programme. This was a conceptual study of how elements and/or theories of practice could be analysed and used to conceptualise components of a practice-based teacher professional learning programme. This research in no way suggests that a practice-based approach to teacher professional learning can be viewed as the panacea for teacher education programmes. Thus, theories and their associated meanings, within the practice arena, became crucial in analysing the concept of practice. The importance of defining words, associated with practice and its relation to other words, became crucial in making explicit the function(s) of practice and their application within the teacher professional learning arena.

1.7 Ethical considerations

Ethical clearance for this study had to be obtained from Stellenbosch University's Research Ethics Committee. Documents that had to be submitted to the committee included the following:

- my research proposal;
- permission letter from the provincial education department of the Western Cape granting me the right to interview teachers involved in practice-based teacher professional learning initiatives;
- a departmental Ethics Screening Checklist, indicating the level of engagement with my participants;
- a teacher participant list;
- a permission letter from the Division for Institutional Research and Planning at Stellenbosch University;
- an interview schedule, consisting of a list of possible questions I would pose to my participants;
- a template of the informed consent form which I would be requesting my participants to read, complete and sign before interviewing them; and
- the Research Ethics Committee Application form.

Once I had received the ethical clearance, the process to recruit my research participants started. All participants are anonymised in this thesis.

1.8 Issues around validity, reliability and bias

McMillan and Schumacher (2006:326) state that the validity of qualitative designs is the degree to which the interpretations have the same meanings for both the participants and the researcher. The researcher and participants thus have an agreement on the interpretations and the understanding of the phenomenon under study. According to Creswell (2009:190), qualitative validity means that the researcher is concerned about the accuracy of the study or whether the findings are accurate from the position of the researcher, the participant or the reader of the account. Qualitative validity is thus a way of checking whether the correct procedures had been followed within the research to ensure accuracy and credibility of the process and the associated findings.

Qualitative reliability is an indication of the researcher's consistent approach during the research process to ensure data that is reliable and could be used in any duplicate study. To achieve qualitative reliability, Creswell (2009:190) suggests that the researcher deploys the following reliability procedures, namely check that the transcripts of the interviews are error free, and create a coding protocol thus keeping record of how the definitions and creation of codes are recorded and audited.

Clarifying bias, according to Creswell (2009:192), creates an honest and open narrative that will resonate well with the reader. It allows the researcher to declare how his or her interpretations of the findings are influenced by its own reality. A trait of any good qualitative research is that it makes explicit the researcher's lived experience within the research. Every effort was made to ensure objectivity, as my own life experiences and biases might have shaped the way I interpreted and understood the created data. With that in mind, I would like to openly state that my personal association with the data and with the teachers involved in this study also introduced bias. During the three years of the project, I developed a close professional, and in some instances, a personal relationship with the teachers involved in this study, thus possibly influencing my objectivity in reporting the case. There is also sample bias, as I make no claim regarding the representivity of the mathematics teachers partaking in this study to the larger population of mathematics teachers involved on the project. The sampling for this study was purposeful as the teachers provided me with the evidence I needed to conduct this study.

However, I am of the opinion that understanding the context and role of the teachers in this study enhanced my awareness and knowledge of and sensitivity to the understanding of the teachers or research participants and the interpretation of this study. This is thus an open declaration of the bias inherent in this study due to the reflexive nature of the narratives developed whilst analysing the data.

1.9 Limitations of the study

The purpose of this study was to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. Hence, this study was limited to analysing practice theory in the field of education and more specifically teacher professional learning. As this study utilised an interpretive qualitative research design, issues around generalisability were also a limitation. According to Bryman (2008:391–392), sampling methods employed in qualitative research are usually limited to small populations, creating challenges around generalising to a specific population. Thus, qualitative research can generalise to theory rather than populations. It is the cogency of theoretical research, rather than statistical criteria that is a determinant in considering the generalisability of the findings of qualitative research to theory. Therefore, as stated in my research question, the purpose of this study was to inform policy on teacher professional learning rather than to prescribe new modes of teacher education programmes and their professional learning.

1.10 Chapter outlines

The following is an outline of this thesis, in order to give structure to the research:

Chapter 1 outlined the orientation and background of this thesis. It focused on my motivation for this study, provided a background to the study and a statement of the problem wherein I formulated my research questions. A brief outline of my research designs and methods, conceptual framework, ethical considerations, limitations of the study and chapter outline were also provided. It also provided the reader with a brief insight into the current literature related to this research.

Chapter 2 will provide a review of the literature related to the research problem and will offer the reader a perspective of what other researchers are saying about the research problem pertaining to this thesis. The chapter is structured to focus on building a definition of practice using the theory–practice debate as a platform. It also focuses on elements of practice that could be used to close the theory–practice divide, with particular focus on teacher education.

Chapter 3 focuses on the research design and methods employed in this study in order to address the research questions. A detailed description of processes and procedures for data collection and analysis are presented in this chapter.

Chapter 4 focuses on the findings from the created the data. The findings are presented for interpretation in Chapter 5.

Chapter 5 reports on the analyses of the findings that arose from the data and places this research project within the context of the wider research literature.

Chapter 6 focuses on the summation of the research, the implications it could have on policy, recommendations for further research, and my conclusions.

1.11 Chapter summary

The motivation for this research stemmed from the NEEDU (2012) report in which concerns are expressed about the current manner whereby teacher education programmes are delivered in South Africa. Whilst there have been successes, much needs to be done in bridging the theory–practice divide in teacher education programmes. According to researchers, teacher education workshops in South Africa and internationally are currently conducted in a decontextualised, once-off and finite manner, with no emphasis on practical application of theory learnt in the workshops. The NEEDU report thus recommends that the SA Department of Education (DoE) commission a study into investigating alternative forms of teacher education programmes, in which theory and practice are integrated, as opposed to being separate forms of action. My focus for this research was an attempt to explore the current challenges around teacher development in South Africa, and to explore the notion of practice theory and the influence it could have on closing the theory–practice gap in teacher education programmes in South Africa, via an approach called the practice-based approach to teacher professional learning.

This chapter outlined my motivation for the study, a background to this study and a statement of the problem in which I formulated my research questions. A brief outline of my research designs and methods, conceptual framework, ethical considerations, limitations of the study and chapter outline were also provided.

The next chapter will provide a review of the literature related to the research problem and will offer the reader a perspective of what other researchers are saying about the research problem pertaining to this thesis.

Chapter 2: Literature review

2.1 Introduction

The purpose of this study was to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. It also explored the influence the concept of practice has on bridging the divide between theory and practice on a practice-based teacher professional learning programme. As I was building towards a conceptual understanding of a practice-based approach to teacher professional learning, explaining and discussing the concept of practice are central in the literature review, in order to gain an understanding of the crucial elements in practice theory that could influence teacher education.

Hence, this chapter firstly reports on the literature on the theory–practice debate, by focusing on what theory is, and how it influences practice. Secondly, the chapter focuses on literature pertaining to practice theory. Thirdly, summary is given of how elements of practice theory are being touted as an option to improve the efficacy of teacher education programmes. Lastly, I place the theory–practice debate within the SA teacher education context, incorporating elements of practice theory. The chapter also reflects what researchers say about practice theory and the influence it could have on closing the theory–practice gap within teacher education programmes.

2.2 The theory–practice debate

Schoenfeld (1999:4) claims, “educationists care about the real world and its problems, and those problems tend to be messy ... problems in education resist the clean formulation of mathematical problems, and educators resist the abstraction of problems away from their contexts of meaning”. Teachers enact their practice in the real world and their actions are dependent on their context and , in so doing, their teaching practices becomes ‘messy’. Not only are teachers confronted daily by changing social, economic and psychological factors, but their teaching practices are also influenced by changes in institutional factors brought on by, in some cases, parochial, partisan and political influences (Schulman, 1983).

Because of these varied influences on teaching, some educational researchers have been known to comment that teaching, quite frankly, is an impossible task (Schulman, 1983). Given these constraints, how do teachers rationalise their actions? What is it that makes teachers do the things they do? Does some theoretical positioning, be it educational or practical or possibly both, govern it? This thesis reflects an attempt to explore these questions from the perspective of the theory–practice debate, but also an attempt to place this debate in the current SA context.

Since this study was about the phenomenon of practice, and its influence on teaching and learning, the need to understand what influences the phenomenon of practice – and its associated theories – became crucial in attempting to investigate, explain and discuss the practice phenomenon from a teaching and learning perspective. Questions thus asked in this research were:

- Which type of theories influence practice?
- What are the philosophical and epistemological foundations of these theories?
- How do the elements of practice theory influence teachers' practice?

Before I commenced my exploration into practice, defining what theory is and the role it could play in influencing phenomena – such as practice – became important. Since this study was situated in the practice of teachers, theories of interest were educational in nature.

According to Maxwell (2013), the use of other researchers' theories will help the researcher to develop a much broader understanding of the concept or concepts linked to the phenomenon under study. Maxwell (2013) defines theory as “a set of concepts and ideas and the proposed relationships among these, a structure that is intended to capture or model something about the world” (Maxwell, 2013:48). These theories should not just be about the abstract categories, but should include the concrete and specific ideas around the concept. Theories of this nature should not just include the so-called “grand theories, such as behaviourism, psychoanalysis or rational choice theory”, but could include “specific, everyday explanations of a particular event or state”, such as attending a training session, teaching a class or reflecting on activities (Maxwell, 2013:48). However Maxwell (2013) cautions that when looking at theory to develop a conceptual framework, the theory must not fit into established insights. This could “deform your argument, weakening its logic” (Maxwell, 2013:51) and make it more difficult for the researcher to see new insights into the phenomenon under study, and make it harder to see which new contributions the phenomenon might add.

According to Thomas (1997), we should also be mindful of an over-reliance on the use of theory in educational research. He claims that the legitimacy of utilising theory within educational research stems from the use of theory and its success within a scientific research paradigm. However, for educational research to claim legitimacy, it started using theory within the scientific sense (Thomas, 1997). Thomas (1997:79) finds this problematic, as the definition of theory has undergone various transformations over the years, and he claims:

“Theory” as a word must be one thing or another. It cannot – if it is to be used seriously to describe a particular kind of intellectual construction in education – have two or more meanings, unless the context in which it is used can universally and unequivocally distinguish those meanings.

This forms the crux of Thomas's argument against the over-reliance of theory in research. He questions how anyone could use theory when the meaning of it eludes many who use theory within their research, especially within educational research. For Thomas (1997:79), the broad range of definitions of theory is insufficient to explain what theory actually is. What we require is further research to try and disentangle this broad range of definitions, and clarify the meaning of theory.

Strengthening his argument above, Thomas (1997:79) utilises the widely held view that theory is the opposite of practice and vice versa. Subsequently, he places this view onto a continuum with theory and practice at opposing ends. However, placing opposing concepts, such as theory and practice, on a continuum creates a looseness that is concerning. For Thomas (1997:83), concepts such as theory should have not have defining moments that slip along a continuum as it compromises the usefulness of the concept. This indecision around defining theory has not stabilised the use of the concept of theory in research, as theory is a construct that is loosely defined and not stable enough to earn its rightful place within the discourse of educational research.

According to Maxwell (2013:53), in qualitative research, the study must take into account not just the theories and perspectives of the researcher, but also the views of the research participants. If these views are to be regarded as theories, as claimed by Waghid and Davids (2017), then these theories can provide valuable insights into the understanding of the phenomenon. Maxwell (2013:49–50) suggests two possible ways of using theory within qualitative research by using the following analogies.

- Firstly, *theory is a coat closet* wherein theory comprises the 'coat hooks' and the data, associated with its relationship to other data, is 'hung' onto each coat hook. However, if a theory can accommodate all the data, some 'coat hooks' will be empty, leaving some theories bereft of data, with no place to put them.
- Secondly, *theory is a spotlight* wherein theory sheds light on particular events or phenomena and also shed lights on situations that could go unnoticed or which are misunderstood. It is this second use of theory that I intended to bring into this qualitative study on practice.

Educational theory should thus not be viewed within the strict scientific sense of rigour, but rather as a set of principles or a system of ideas that can act as agents of change. Maybe what is needed is a more fluid way of thinking about educational change and not allowing rigid theories to interfere with the thoughts. The thoughts should rather drive the theories of change, whatever they may be. Because, if what Waghid and Davids (2017) imply, namely that our thoughts are theories in action, and what Maxwell (2013) claims namely that theory should not encompass only grand theories (be it psychological, social or historical) but also theories relating specifically to everyday events, which offer explanations for these events, then it is this notion of theory that I would like report in this thesis. Ideas and thoughts, whether influenced by thinking around social, historical or psychological beliefs about teaching, could also become a platform for theories of change, as opposed to grand theories of change.

As a researcher, 'theory' in this study was for me about teachers encompassing the thoughts and the knowledge acquired, whether via training or social interaction. The aim of this study was therefore to explore how various forms of theory could influence the practice of teachers and thus inform policy on teacher education programmes. Thomas (1997:97–98) succinctly states it as follows, "[t]heory in education is antagonistic to pluralism in ideas. With commitment to it, fertility is sacrificed to orderliness. What is needed more is more 'ad hocery', more thought experiments, more diversity."

Thus, within this study, theory was considered any system of rules that teachers acquire 'ad hoc' and which offers guidance to develop effective teaching practices. This set of rules could be developed from theory defined as new subject matter knowledge and/or pedagogy. As this study was about how practice theory could influence teacher efficacy, definitions of theory relating to the description and/or acquisition of teacher subject content knowledge, pedagogy or pedagogical content knowledge (Schulman, 1983) were crucial when referring to teacher education practices, whether these are acquired socially (as a collective), psychologically (cognitively) or philosophically (experientially). The notion or definition of 'theory' within this study thus encompassed all possible definitions discussed above.

It could also include all grand theories of modernism, whether they be behaviourist in nature or according to the views of post-modernists, which state that maybe we should forget all the grand modernists theories related to teacher education. Researchers focussing on teaching should consider developing new theories that do not speak to the rigidity of teachers' roles in teacher education, but evolve from observation and practice such as constructivism. Suffice to say therefore that 'theory' mentioned in this thesis is most certainly educational in nature. Implying that these are theories, whether learnt in a formal training session or at the foot of a master or expert, that would offer teachers something worthwhile, namely, that their teaching becomes a meaningful, practical and worthwhile activity for the greater good of all, as suggested by Peters (1966).

Schatzki (2001:12) defines theory as "a general and abstract account. A theory of X is a general abstract account of X." An account of X would imply that there is something that is known or observed, but in order to understand it, we first need to develop a theory around it, then provide empirical evidence about the phenomenon that is known or under observation, so that we may prove or disprove the theory. Hence, theories provide opportunities for meaning making and understanding. Therefore, a theory of education relates to an account of education, while a theory of practice relates to an account of practice. Therefore, to understand the phenomenon of practice, one needs to have a theory about what is known about or observed within practices and, since the focus of this research was on educational practices, an understanding of educational theory and its association with (educational) practice was just as crucial.

According to Ornstein and Hunkins (2004:19), theory provides a framework of the field of study, and researchers use theory as a point of departure to analyse concepts and principles, and offer new ideas and relations of the field of study.

To study practice or education, one should therefore use a theory of practice or education and examine and explain the concepts and principles contained in the theory to understand the elements of practice or education better and thus offer new insights into what practice or education is.

It must, however, be stated that, for the purposes of this study, the aforementioned definitions of theories were in opposition to the view of theories being pure scientific conceptions that tie theory to experimentation, explanation and prediction in a true scientific sense, namely hypothesis testing (Schatzki, 2001). The aim is not to test a hypothesis of practice, but to look at exploring notions of practice by focusing and analysing an educational theory or theories, via observation of human enactments of practice.

Moving from what theory is to the purpose thereof, Smeyers and Burbules (2006:443) state, "Theories can extend, or challenge, or even criticize our constitutive understandings. Theory makes a claim to tell us what is really going on, to show us the real, hitherto un-identified course of events." Theories are thus not only general predictors of behaviour; they can also counter those predictions by offering alternatives. Theories come about when we observe or know of something, and we need to provide an explanation for it. In trying to understand what we are observing, we verbalise it as a theory, which provides a possible explanation for what we are observing. In the pursuit of finding evidence to either prove or refute a theory, alternatives may arise which could counter our original perceptions (Smeyers & Burbules, 2006).

Another perspective on the purpose of theory is given by Davids and Waghid (2017:1), namely "So when one theorises one does something. In this way, one acts whether it is in the form of thinking, contemplating or (re)constructing meanings". Our actions are thus guided by our thoughts, and if our thoughts are theories, then our actions are considered to be theories in action. Therefore, if our practices – that is, what we do – are actually our actions, and our actions are guided by our thoughts – ergo theories – then our practices are guided by our own personal theories. Continuing this argument, the abovementioned researchers state, "These practices do not occur independently from what one thinks, or imagines, or contemplates. So, in a way, theory is inherent in practices" (Davids & Waghid, 2015:1). It would seem, according to Davids & Waghid (2015), that we are constantly theorising when we are enacting a practice. The mere thought of something leads to a theoretical positioning about the possibility of enacting that something, in other words, bringing it into action.

Using the argument above, one could state that teachers are then engaged in developing their own educational theory when they start thinking about how best to teach or engage in the practice of teaching. Thinking that is cautioned by various contextual factors, such as the social environment of the learners, the classroom environment within the school, psychological or cognitive ability of learners, etcetera.

In turn, we also have practice theorists, such as Theodore Schatzki (2001), who decry the notions of using grand educational theory and its links to practice, and who assert that we should not delve too much into the theory, but focus on what practitioners, such as teachers, do and say.

Using Schatzki's (2001) definition of theory, one may say that, in order to give an account of a teacher's practice, one needs to find theories of educational practice, and to make meaning of educational practices, one needs to make meaning of that which influences educational practices, namely theory, or in particular, educational theory. Working thus from the premise that educational theory influences educational practices, we may ask what it is that informs educational theory.

According to Saugstad (2002:375), the duality of the terms 'theory' and 'practice' is itself situated in the ambiguity contained within educational conventions. Raelin (2007:495) argues that the purpose of theory is to inform practice and theory loses its meaning if not reflected in practice. One of the key theory–practice debates between Carr (2004; 2006) and Hirst (1963) centres on whether educational theory informs practice, or whether practice informs educational theory. According to Hirst (1963), within the first perspective, theory is viewed as establishing the norms for practice, the theory being transformed into scientific knowledge, whereby standards are set and maintained, irrespective of the context. Using the second perspective, Carr (2004; 2006) views practice as the dominant force in creating theory, a context-dependent and particular guide to practice.

Carr (2006) notes the influence modernist thinking had on the evolution of educational theory and subsequently on teaching practice. From a brief historical perspective, modernist philosophers started standardising practices objectively. By developing impersonal criteria of rationalising practices, they utilised an objective knowledge base, called 'theory' to rationalise practices.

As examples of this objective knowledge base, Carr (2006:138) highlights two important texts, which formed the evolution of educational theory linked to philosophy, viz. Plato's *Republic* and Rousseau's *Emile*, although neither of these authors, according to Carr (2006), viewed themselves as educational theorists. During the late nineteenth century, philosophers used abstracts from these writings relevant to education and developed them into educational theory. Coupled with the positivist influence, modernists tried to rationalise actions based on pure scientific principles (Carr, 2006:138).

Teaching was consequently not exempted from this deep faith in theoretical knowledge, and was henceforth to be based on objective educational theories that created standards against which practices could be measured, that is the notion of educational theory informing practices was thus, according to Carr (2006), entrenched within the modernist age. Modernist educational reformers of the late nineteenth century, such as R.H Quick (Carr, 2006), started to express dissatisfaction with the then model of teacher training called the 'pupil-teacher' method, which saw novice teachers become apprentices under experienced teachers. Despite the body of skills and practical knowledge learned by novices under this method, modernists were quick to enforce theory to standardise teacher education. The notion of understanding what people do or the practices they enact, could not be based on custom, habit and tradition, because social progress cannot be attained based on social practices that are not controlled by objective criteria or principles, namely theory (Carr, 2006).

Educational theory thus assumed its philosophical nature as it was influenced by philosophical texts. Philosophy formed the knowledge base for developing educational theory, rationalising educational practices. Carr (2006:139) states that from a philosophical perspective, educational theory evolved around dealing with the knowledge base of educational theory and its relationship to practice. Since practice is influenced by an individual's knowledge and belief systems, it is pertinent to question the origins of these knowledge (epistemological) and belief (ontological) systems and their effect on an individual's practice. If, according to Davids and Waghid (2017), the mere thinking of enacting an idea can be considered to be theory in action, then for teachers it can be assumed that when planning a lesson, their enactment of that lesson (practice) is guided by a certain way of thinking, in other words, educational theory.

However, given the fluid and unpredictable nature of the classroom, these theories may constantly need adjustment. This does assume that teachers need to have some prior knowledge or thoughts (theories) of teaching and learning, hence strengthening the argument that theory influences practice, but once the practice is enacted, it may have to be adjusted taking into account the unpredictable nature of the context, which strengthens the argument that practice informs theory.

According to Pring (2000, cited in Carr, 2006:148), "In other words, one is committed in being 'practical' to theoretical assumptions of some sort; and one is committed in accounting for one's practice to some degree of theoretical activity". Thinking of the aphorism about which came first, the chicken or the egg, similarly, which came first: theory then practice or practice and then theory? I would argue that both processes occurred simultaneously, as the one cannot be considered without the other because educational theory cannot distance itself from the norms, values and beliefs contained in the practice since it is the norms, values and beliefs of the teacher that result in and influence educational theory and its associated practice.

2.2.1 The theory–practice debate: norms, values and beliefs

If teachers are not then aligning themselves to a particular theory, what then does inform their practice and what guides their practice? In an attempt to answer this question, Hirst (1963) submits that the traditionalist view of philosophy, having the monopoly of explaining educational practices must be reprioritised as much research has been done about educational practices in the fields of psychology and sociology. Teaching is not just constituted from a philosophical or knowledge viewpoint but also from a psychological (i.e. how learners behave and think) and sociological perspective (i.e. taking into account learners' social conditions). Hirst (1963:52) continues:

[W]hether we are thinking about particular practical decisions made whilst teaching or, as here, about the formation of general principles that state what ought to be done in practice, there are many diverse aspects to the issues that must be taken into account. The philosophical alone can never be sufficient for the task.

Hirst (1963:52) contends that educational principles informing practical issues must build on the foundations of whatever knowledge, beliefs and values are pertinent to the practice. The philosophical (the knowledge) is important but it must not exclude the psychological (beliefs and behaviours) and sociological (values, learner context) domains of knowledge. Hence, Hirst (1963) proposes that educational theory constitutes the domains of the philosophical (knowledge), psychological (beliefs and behaviours) and sociological (values). These domains of knowledge therefore form a nexus of what should constitute educational theory informing practices. Excluding the aforementioned domains, could lead to misinterpretations of educational practices. Hirst (1963:54) states:

We need to think in terms of a much looser and much more open process of judgement to which philosophical beliefs, psychological and social theory, etc. contribute in their appropriate ways. Beliefs, knowledge of facts and values provide the grounds on which judgements of educational principle are made and it is by reference to these that we give the reasons for what we advocate.

Extending his argument of incorporating the three domains of philosophy, psychology and sociology into the development of educational theory, Hirst (1963:58) states that theory in an educational context, refers to a system of rules that offers guidance to actions or practices. These rules are linked to parts of psychology dealing with learning, motivation and perception, and sociology dealing with values, improving lives and doing things for the greater good – a crucial aspect of teachers' work. Theory within a scientific sense is much more rigid as it deals with proving hypotheses and setting objective standards and outcomes. By applying the rigidity of scientific knowledge to educational theory, which is the modernist approach, educational theory loses its fluidity to make value-driven judgements related to teaching on what shall and what shall not be done (Hirst, 1963).

In my opinion, teaching is such a human, value-laden and emotive activity that it cannot be subjected to the rigidity of scientific laws or processes. The emotions and moods of those enacting teaching are confronted by different circumstances every day, highlighting the complexities within teaching, and context should determine the most likely form of activity that would take place. In my observations of teachers and how they enact their practice, that is teach, they firstly consider the contexts with which they are confronted when planning a lesson and educational theory is the furthest source of knowledge upon which they draw. What motivates teachers to prepare their lessons are issues around “I believe the best way” or “[m]aybe I should consider” or “I am aware of this, therefore”. This could imply that teachers, when planning a lesson, would draw on their beliefs and experiences, based on certain values and contexts within which they intend teaching (i.e. practicing). I contend that the knowledge or epistemology of teachers’ practice develops because of experience and what could possibly work in their teaching (i.e. practice) for a particular context. This view is corroborated by Carr’s (2006:149) contention that “[i]n ‘articulating’ their beliefs in this way, practitioners are neither engaging in ‘theoretical activity’ nor articulating their ‘theoretical position’. What they are articulating are the beliefs that underwrite their practice not their allegiance to some theory.” Experience, it seems, is everything.

2.2.2 The theory–practice debate: SA context

An example of applying the rigidity of scientific knowledge to educational theory, in the SA context, is the Norms and Standards for Educators (DoE, 2000). Before 1994, SA teacher education was driven by the apartheid political logic of separate education systems for different racial and ethnic groups – a consequence of which was a lack of coherence in the teacher education system, creating a multiplicity of curricula and qualifications. Robinson (2003:19) explains that to address this lack of coherence and multiplicity of qualifications, the Norms and Standards for Educators document was developed as a regulatory framework for teacher education, and was published for discussion in 1998, and gazetted in 2000, making it the official document to develop teacher-training programmes. The Norms and Standards document outlines the seven roles an educator should fulfil in order to teach in a school (DoE, 2000:12–14). These are that teachers should be:

- learning mediators;
- interpreters and designers of learning programmes and materials;
- leaders, administrators and managers;
- scholars, researchers and lifelong learners;
- fulfilling community, citizenship and pastoral roles;
- assessors; and
- specialists in terms of learning areas, subjects, disciplines and the different phases.

According to Wally Morrow (2007b), this is an example of a policy document where theory is posing as practice. The challenge, with these descriptors and roles, is that they ignore one of the most important aspects of teaching and that is context, as highlighted by Morrow (2007b:11–12), who states:

The 'seven roles' ignore the reality of the conditions in which the majority of teachers in South Africa work and, in this way, inflates the conception of their workload. For a conscientious teacher this characterisation of their work is likely to be a source of acute professional guilt as they struggle to cope on a daily basis; 'it makes greater demands than any individual can possibly fulfil'. Similarly, it ignores the manifest differences between the institutional contexts in which teachers work. The work of a teacher in an efficiently organised and functioning school is very different from the work of a teacher in a dysfunction or barely functioning school. The 'seven roles' seem to be assumed to be the roles of each individual teacher, and there is no suggestion that there might be a division of labour in an institutional setting which allocates these different roles to different individuals.

The activity of teaching in South Africa is thus determined in relation to a predetermined theoretical guide, such as the Norms and Standards for Educators (DoE, 2000), about the roles a person should perform or fulfil in order to teach. This set of descriptors, according to Morrow, does not take into account the contexts within which teachers work and thus does not speak to the current challenges faced by teachers in South Africa. According to Morrow (2007b:8), these challenges include:

And, then, we need to think about the conditions in which a high proportion of schoolteachers in South Africa try to teach. The HIV prevalence rates, the Poverty Index, the levels of adult illiteracy and widespread unemployment, the lack of functioning and maintained school buildings and equipment, the failure of the delivery of stationery and books, the breakdown of school feeding schemes, the increasing linguistic and other diversity of pupils, never mind the levels of gang-related activities, are not merely statistical abstractions to be included in Annual Reports of government departments. They are indicators of harsh and inescapable realities faced by many schoolteachers on a daily basis. The miracle is that any teaching takes place at all.

Further, according to Morrow (2007a), the seven roles listed above define teachers' practice objectively. However, the classroom is never in the league of a controlled laboratory where hypothesis is tested and either objectively confirmed or refuted.

The classroom is a dynamic fluid space that cannot be controlled by rigid theories or roles to guide the activity of teaching, while theories are constructed to offer guidance on what shall and what shall not be done. Drawing on my experience of observing and mentoring teachers, teachers will decide subjectively by taking their context, identity and experience into account, or by drawing on their knowledge, beliefs and values, what the appropriate activity is for dealing with the teaching task at hand. For teachers, what they think about is never separated from what they do; their actions and thoughts are experiential, reflexive and cyclical, with their thoughts and actions inextricably linked. Thus for teachers, it could be implied that practices are about their experiences, how they live it, how they embody it, how they reflect upon it and how knowledge that can be shared amongst peers is created to further strengthen their practices, namely their teaching.

Knowledge starts off not just as a blueprint for practices but as theories and/or ideas that is constantly evolving in the moment of the practice, taking into account the existing or tacit knowledge, the philosophical beliefs or thoughts, the psychological and social disposition.

Therefore, educational theory should not be some abstract ideas; it should form a meaningful collage of various concrete ideas for any practice, such as teaching. Hirst (1963:61) states:

Educational theory ... depends upon the bringing together of many diverse elements of understanding to form a composite theory in which practical judgements are made. In such a complex activity, serious problems of meaning frequently occur and in particular a failure to understand the relations between different fields of discourse befogs many educational issues.

Consequently, the role of educational theory should be linked to the kind of questions that will inform the practical activities of teachers. Theory thus guides the process of teaching in terms of what should be enacted and how it should be enacted. However, practical judgements should not be ignored as practice takes place within the context where it is enacted – thus linking to Hirst's (1963) argument that educational theory should guide the questions of one's practice, but taking into account not just the philosophical, but also the social and psychological influences, as determined by the context of that practice.

Educational theory thus forms the rationale for educational practice, but not in the limited, rigorous manner of scientific theory based on logical empiricism tenets that educational activities or practices should be governed by the same rigorous standards as scientific practices. According to Hirst (1963:60), educational theory should draw on a vast array of knowledge, value judgements and beliefs, which contribute to the "peculiar character of educational theory", creating a composite theory in which practical judgements can be made.

This composite theory is thus made by asking particular questions around what ought to be done and what ought not to be done (Hirst, 1963:63):

Educational theory is distinctive because of the particular questions with which it is concerned – questions about a range of intentional activities. It is the theory which in practical judgements determines what ought to be and what ought not to be done in educational practice.

Apart from knowledge, beliefs and values, another view is put forward by Carr (2006) who argues that educational theory has a minimal effect on practices. The role that educational theory currently performs is a political and rhetorical one in nature rather than theoretical Carr (2006:152–153).

According to Ornstein and Hunkins (2004:20), the test of a good theory is the ability to guide practice; however, good practices are also based on a deep understanding of theory. In teaching, most teachers and principals consider practical considerations more worthwhile than theory, when attempting to convert theory into practice – a classic example of practitioners ignoring theoreticians. Adopting the right teaching approach, in any given context, is not an easy task, as it involves experience and a fair amount of common sense, which no theory can determine. Practice involves selecting strategies and rules that apply to various contexts and –(Ornstein & Hunkins, 2004:21).

No matter how scientific we think theories are, a certain amount of art is involved in the practice of curriculum/teaching-intuitive judgements and hunches that cannot be easily predicted or generalised from one situation to another, and this confounds theory.

In summary, the debate of whether theory informs practice or practice informs theory, will be an enduring debate – fuelled by the perspectives of modernists and post-modernists. Nevertheless, a commonality exists in that educational theory is not only informed by philosophical but also by social and psychological influences. Teachers enact their practices not based solely on knowledge, but also influenced by social and psychological factors within their context. Knowledge of context is one thing, but awareness of the social and psychological domains of the context, influences the practices to a greater degree. Teachers' thinking and their theory are not rigid scientific principles, but fluid, context-dependent ideas or thoughts on how to enact their teaching and their practices. In my opinion, what teachers think and do are never separate actions, when it comes to their teaching practices. Although influenced by the philosophical, psychological and social factors, what teachers think and do are cyclical and reflective actions, constantly influencing their efficacy in a positive manner. To offer other perspectives on the theory–practice debate, the next section will investigate less dichotomous view(s) on the theory–practice debate.

2.2.3 The theory–practice debate: some perspectives

The big debate on trying to legitimise educational theory, has raged on for the last 100 years. This debate has seen the evolution of educational theory being situated in the modernist movement of the late 19th to early 20th century (Carr 2006). The modernist's movement used the ideas and beliefs of logical positivism and argued that educational theory should be judged against and developed along the rigorous standards and criteria of scientific theory. This was in opposition to the views of post modernists or post positivists, who argued that educational theory should move away from the rigorous notions of standards of science and rather situate its analysis within the concept of practice rather than within theory (Carr, 2006:140). This was brought on by the insight or perspectives of Gadamer's (1979, cited in Whan, 1986) rethinking of the Aristotelian concept of practice, Polanyi's theory of 'tacit knowledge' (Polanyi, 1966) and Gilbert Ryle (1945), who in the early 20th century, developed the concepts of 'knowing how' and 'knowing that'. The concept of 'knowing how' was essentially defined as the enactments of practice, the doing or the application of procedural knowledge and 'knowing that' was referred to as propositional knowledge, the theory, acts of thinking, which he referred to as "intelligence" (using Plato's account of the tripartite soul (Waghid & Davids, 2017:3).

Ryle's (1945:5) contention was that 'knowledge how' is a concept logically prior to the concept of 'knowledge that'. He thus infers here that educational theory is a species or dependent on educational practice because it is only through the enactment of one's propositions or thoughts that one can refine and establish the theory. It is via practice or 'knowing how' that theories or 'knowing that' can manifest themselves, be refined and produced, in other words, it is through the doing of things that knowledge is actualised (Ryle, 1945:8).

According to Ryle (1945) modernist philosophers at the time did not do justice to the distinction between theory and practice in trying to rationalise the role of theory in informing practice because in trying to establish their theories of knowledge, they ignored the 'discovery of ways and methods of doing things' using it only to discover facts. We can only know that we are doing the right thing if we enact whatever we are thinking (Ryle, 1945:4),.

Essentially, Ryle (1945), was arguing that we can only "know that" when we enact our "know how", i.e. "man's intelligence or stupidity is as directly exhibited in some of his doings, as it is in some of his thinking" (Ryle, 1945:5). This is a similar argument to that of Schatzki (2001), who decries the notion of using grand educational theory and its links to practice. He asserts that we should not delve too much into the theory, but focus on the 'doings and sayings' of practitioners.

Another researcher who offered a different, but similar, perspective on the theory–practice debate was Michael Polanyi (1966), who developed the concept of tacit knowledge based on embodied and experiential practice. According to Polanyi, scientific thought denies people the power of intrinsic thought as it promulgates mechanical thoughts based on scientific knowledge, a type of rule following. There was not much allowance for freedom of thought. In his endeavour to define tacit knowing and its role in the creation of human knowledge, he started off with his now famous aphorism, “we know more than we can tell” (Polanyi, 1966:4). Polanyi (1966) refers to two types of knowledge, namely tacit and explicit knowledge. We know of something only to learn about something that we want to know. This something cannot be made explicit via rules, but rather done ostensibly during social settings, making the covert overt. This could be viewed as crucial in transforming the knowledge of teaching in teacher professional learning programmes. Given the contextual variances within teaching, the idea of sharing tacit knowledge, knowledge not bounded by rules or theories, could prove useful in transforming teachers’ practices positively. Using Gestalt psychology, the power of perception was described as the poor relation of tacit knowing, but proved powerful in the creation of knowledge. What we perceive and observe can be more powerful than following a set of explicit rules or a defined set of competencies/roles.

Working from the premise that sometimes, within a social collective, human knowledge is created by ostensive learning, that is, by pointing and doing, and without following any explicit rules, meanings are created. Supporting this notion, Collins (2001:115), states, “mastery of practice cannot be gained from books or other inanimate sources, but can sometimes, though not always, be gained by prolonged social interaction with members of the culture that embeds the practice”.

Alluding to the social nature of practices, Collins (2001:116) further states that there are two major indicators of success when grasping a practice. These are a willingness to commit mistakes and the nature of conversations with experts; and within any social interaction, it all starts with perceptions, leading to conversations, leading to mistakes, leading to reassessing – and thus begins the creation of knowledge via this experiential process utilising a cyclical nature. Immersing oneself within a social group is the only way to create new knowledge and by engaging in prolific social intercourse, knowledge is transferred; common socialisations lead to common solutions to problems. When new knowledge emerges from these social interactions, we are witnessing the birth of new tacit knowledge (Collins, 2001).

To further elucidate on these terms, Brown and Duguid (2015:199) use a similar analogy, referring to Gilbert Ryle’s (1945) concepts of ‘knowing how’ and ‘knowing that’. We need to ‘know how’, the tacit, in order to ‘know that’, the explicit. In any practice community, individuals come with tacit knowledge in order to transform existing knowledge ‘know how’ into the explicit ‘know that’.

Thus a definite link exists between tacit knowledge and explicit knowledge, namely the two are always interlinked experientially within a social learning environment, that which is viewed originally as tacit becomes explicit, once embodied and practiced, and that which became explicit, is now shared as tacit. Practices then become meaningful when viewed from this experiential and cyclical perspective.

However, what is the process of creating the new meaning or knowledge? How do we make the covert overt? According to Polanyi (1966), if perception is an example of tacit knowing, then how our body processes perception relies heavily on how we internalise our thoughts in the pursuit of creative thought. We therefore need to internalise our perceptions, or tacit knowing, in order for us to project our new knowledge. Our body is the instrument of all our external knowledge, whether intellectual or practical (Polanyi, 1966:15). Tacit knowledge is thus personal, unique, consisting of mental models of specific situations, context-specific and deeply embedded so as to seem as naturally occurring knowledge, attached to the knower and made explicit with emphasis on the visual and less on the verbal, procedural as opposed to declarative knowledge. Stating it succinctly, tacit knowledge is practical knowledge (Ambrosini & Bowman, 2001).

Elaborating on the arguments laid down by Ryle (1945) and Polanyi (1966) that educational theory and practice are inextricably linked to each other, Davids and Waghid (2017) claim, “Educational theory has been criticised for being nothing other than the name given to the various futile attempts to stand outside of educational practices in order to explain and justify them.” In criticising current views of educational theory as separate from practices, these authors do not view educational theory and practice theory as being in a dichotomous relationship; rather as being linked to each other; a view to which I am partisan too. Theory and practice, therefore, are never disconnected. “To avoid theory is to become unmindful of what a practice actually is. That is, theory and practice are interrelated and constitute a nexus according to which they unfold in forms of human action” (Davids & Waghid, 2015).

To further their understanding of this ‘nexus’, Davids and Waghid (2017) utilise the Aristotelian concepts of *phronesis*, *poiesis* and *praxis*, also mooted by researchers such as Gadamer (1979, cited in Whan, 1986); Carr (2004), Korthagen and Kessels (1999) and Saugstad (2002) as the basis for making meaning of educational theory and practice. Gadamer (1979, cited Whan, 1986:246) used the notion of *phronesis* in his study of interpretation and understanding in *Truth and Method*. For Gadamer (1979, cited Whan, 1986:246), *phronesis* is concerned with judgement, choice and reflection on what constitutes the good for which one acts (Whan, 1986:246).

Essentially, from a teaching perspective, *phronesis* focuses on the reasons for teachers' actions and provides insight into the proposed practical knowledge, for the greater good; moral knowledge to perform the correct activities (Davids, 2015; Whan, 1986). Korthagen and Kessels' (1999:7) interpretation of **phronesis** is "knowledge that is situation specific and related to the context, knowledge that brings their already existing, subjective perception of personally relevant classroom situations", that is knowledge that is personal and based on experience. However, this knowledge is first generated as general conceptions, initially generic in its application and applicable to a wide variety of situations and understanding the usage of the knowledge before specifying its use. This type of knowledge is referred to as **epistemic** knowledge.

Poiesis means 'production' and it is understood as that which is in the making – with an emphasis on the actual process of developing the enactment, rather than the product or the enactment itself. It is the means to the end. During *poiesis*, one theorises and performs a practice because of this process. **Praxis** is the actual action of this 'production' or *poiesis* (Waghid & Davids, 2017). However, it is also liberatory in the sense that it sets the 'production' free from its theoretical musings, namely *phronesis* and *poiesis*. *Poiesis* and *praxis*, or stated differently, 'knowing that' and 'knowing how' or the creation of tacit and explicit knowledge, are ongoing but the two are never distinct from each other. When viewed in this way, it becomes apparent that theory and practice are unavoidably intertwined, and always espoused as an interrelationship, never a dichotomy (Davids, 2015; Davids & Waghid, 2015; Waghid & Davids, 2017).

From a teaching perspective, the Aristotelian approach views educational theory and practice as being a nexus – thinking and acting are interconnected and cannot be divorced from each other (Davids & Waghid, 2015). When confronted with a teaching scenario, teachers need to adapt to what unfolds in the classroom. If educational theory informs those thought actions or practices, in other words teaching, then teachers are constantly mindful of their actions; especially since classrooms are such fluid and dynamic environments.

When teachers prepare lessons, they are involved in the process of 'making', and according to Davids and Waghid (2017), when one is in the process of making, you start to develop a theoretical viewpoint of how the practices within the classroom are to be enacted. For Davids and Waghid (2017), this is considered the germination of a teacher's own educational theory, as the teacher now has a theoretical blueprint of how the lesson will be enacted. However, the fluidity and dynamism of classrooms are the result of learners having different social backgrounds and different cognitive abilities. Teaching is thus context-dependent and not context-free, and it should be particular and not general, concrete as opposed to abstract. Taking these criteria into account, teachers constantly have to make adjustments to the blueprint whilst enacting the practice in the classroom, bringing into view Davids and Waghid's (2017) argument that theory and practice cannot be viewed as two independent entities; they form a nexus.

They claim that there is no unidirectional feed of one into the other, but rather a bidirectional to-ing and fro-ing. One's thoughts (theories) guide your practice, but your practices are constantly generating new thoughts (theories) to adapt and improve your practices.

In an attempt to decipher this 'to-ing' and 'fro-ing' between educational theory and practice, Ian Hardy (2012:517) proposes another perspective, stating that attempts to generalise educational theory from practice are "important and useful for informing both practice itself and research on practice". Thus any attempt of theorising on matters education, must begin from the premise of educational practice.

Hardy (2012) draws upon social theorist, Raewyn Connell's (2007, cited in Hardy, 2012:518) concept of "dirty theory" to "to develop a conception of professional educational practice that seeks to develop more general knowledge to help inform the work of researchers, policymakers, and practitioners" (Hardy, 2012:526). In essence, Hardy (2012:518) describes this is a theory that:

- seeks to generalise but always in light of the specificity of practice;
- avoids privileging existing dominant conceptions of practice;
- is in active dialogue with more marginalised local epistemologies; and
- takes the history of current practices into account

This implies an ongoing reflexive dialogue of what I am currently enacting in my teaching, a sort of educators-as-researchers and reflective practitioners, in which teachers are currently thinking, or more appropriately, theorising about what I am doing and how I can do it better. These reflexive actions will of course be influenced by historical knowledge, beliefs and values of the teachers, that is, the philosophical, psychological and social domains.

This process is thus one of theory development rather than abstract theory generation. According to Hardy (2012:526) dirty theory is thus:

[T]heorizing that is mixed up with specific situations. The goal of dirty theory is not to subsume, but to clarify; not to classify from outside, but to illuminate a situation in its concreteness. And for that purpose – to change the metaphor – all is grist to the mill.

The expression 'grist to the mill' clearly indicates theorising about educational practice is theorising reflexively on every nuance of the practice in order to make sense of what is enacted. It allows things to develop and play out as they are, but whilst also engaging in reflexive practice to develop knowledge of that practice, to inform the work of researchers, policymakers and practitioners at and beyond those actual sites of practice.

Dirty theory seems to make a very strong argument for educational theory deriving from practice, because educational theory is a moment-to-moment account of what constitutes a teacher's practice, but most importantly, what constitutes the practice within a specific context. Dirty theory also strengthens the argument made by Davids and Waghid (2017) that educational theory and practices form a nexus. According to the concept of dirty theory, any theorising about practices will be concrete and particular, because of the context-dependent nature of the practices, an argument that I will be carrying forward in this research thesis.

Teaching is primarily a human activity that embodies all the knowledge, norms, beliefs and values of the person enacting the practice of teaching. It is poietic in nature as one can consider the act of teaching as constantly being a practice in the making, entrenched in the moment and context of the practice situation.

Entering into the theory–practice debate, Alan Schoenfeld (1999) claims that there have been great strides in the study of what people know and how they enact this knowledge. However, according to Schoenfeld, more research must be conducted to realise an integrated theory that adequately puts into perspective how we think, or theorise (poiesis) and act, that is, practice (praxis), in trying to close the theory–practice gap (Schoenfeld, 1999:5). However, social theorists may have been able to explain issues lacking the cognitive perspective, but their theories have become too “grandeur in scope and vision” (Schoenfeld, 1999:5) and lack the finer detail. According to Schoenfeld (1999), what is lacking is evidence or perspectives of a or finer detail, that is, committing to consider issues around motivation and affect. These are the key to why people act the way they do and what drives them to act the way they do.

This section focused on highlighting some perspectives of the theory–practice debate from a less dichotomous viewpoint. It started with Gilbert Ryle's (1945) notion of 'knowing that' and 'knowing how'. For Ryle, we need to 'know how', before we can 'know that', alluding to the idea that theory is informed from practice. Following a similar argument, Polanyi (1966) makes the distinction between the importance of tacit and explicit knowledge, and the role this plays in developing practices. Brown and Duguid (2015), equate 'knowing how' to the tacit and 'knowing that' to the explicit. The tacit is dwelling in the land of observation where emphasis is placed on the visual and on observing and less on the verbal, observing procedure as opposed to describing it. The tacit is thus considered as practical 'know how' and the explicit is theoretical 'knowing that'.

Another perspective is the Aristotelian view in that practice and educational theory form a nexus – the two are never distinct from each other. This is supported by Gadamer (1979, cited in Whan, 1986), Davids and Waghid (2017), Carr (2004) and Saugstad (2002). Using the ideas of phronesis, poiesis and praxis, educational theory and practice are intermingled – these concepts are dependent on each other and their relationship is iterative and cyclical.

Phronesis focuses on the reasons for doing what I am doing, poiesis comprises the production plans and praxis is implementing the ideas, putting them into action. This perspective constantly links thinking to doing, rethinking, re-enacting, developing the cyclical and iterative nature of theory and practice, and focusing on the bidirectional approach to the theory–practice debate.

Strengthening the bidirectional approach to the theory–practice debate is the case for ‘dirty theory’. Dirty theory is a theory that states that any attempt to theorise about practice must start from the practice and not be based on any rigid scientific principles. Hardy (2012) uses the concept ‘dirty theory’ to suggest that, within professional educational practice, the teacher should always engage in ongoing reflexive dialogue, he or she should constantly be engaging in thought processes to make sense of the thoughts and actions, i.e. how one is informing the other, allowing practices to evolve organically out of the thought processes.

In the next section, I will attempt to conceptualise the elements or components of practice, using practice theory as the theoretical framework. I will also focus on how these components of practice have been utilised to conceptualise an alternative to how professionals learn, narrowing this idea down to how the components of practice could influence the efficacy of teacher professional learning programmes.

2.3 Conceptualising the elements of practice within practice theory

According to Schatzki (2001:10), practice theory currently contributes to an array of diverse issues dealing with the philosophical and social nature of human engagement, which includes teaching. On the philosophical front, theorists are focusing on how humans create knowledge (i.e. the epistemology of practice via human engagement), how this epistemology of practice is acted out in various contexts (i.e. the ontology of practice).

Schatzki (2001:10) argues that, on a social level, the focus is on issues around subjectivity, embodiment, meaning, the reproduction and transformation of social life – essentially, how practices relate to the social constructions of one’s reality. However, in contributing to the philosophical and social issues around practice, practice theory has begun to oppose current thinking around individualism, alluding to the idea that practices are developed collectively despite being performed individually. Practice theorists have long debated this issue of whether practices are based on the collective, that is, on the totality, or on the individual. Given that practices are an embodied and personal activity (Schatzki, 2007), it is the knowledge (historical and/or experiential), beliefs and ideas of the collective or the individual that govern all practices, and what drive individuals or the collective to act in the way they think appropriate.

Thus, as Schatzki states (2001:11), there is currently no unified theory on practice, but mere philosophical and social extensions of interpretations of theory in philosophy and sociology, namely social learning theory and individual learning theory. As Schatzki (2001:11) states:

A central core, moreover, of practice theorists conceives of practices as embodied, materially mediated arrays of human activity centrally organised around shared practical understanding. The point of the qualifier “embodied” is that, as many late twentieth-century thinkers (above all feminists) emphasize the forms of human activity are entwined with the character of the human body.

Despite these philosophical and sociological perspectives, most theorists, according to Schatzki (2001:16), agree that practices are the medium for human development and change, and are something tangible that manifests themselves in the ‘doings and sayings’ – the enactment of the activities embodied in the practice.

Practice theorists, explains Schatzki (2001:12), view practices as an “array of human activity, socially mediated by humans, using human or non-human artefacts, being dependent on shared skills and being context-dependent”. Practice theorists agree on practices being made up of different types of activities, but they differ on the type of activities.

Some use the notion of practices as the development of skills, presupposed by the notions of tacit knowledge underpinning the activities, ‘we know more than we can tell’ (Polanyi, 1966). Some focus on the idea that practices are a composition of human activities, the ‘doings and sayings’ (Schatzki, 2001). Others view the evolution of practices to include the use of non-human objects (post-humanist view), such as the role of context in developing practices (Corradi, Gherardi & Verzelloni, 2010; Kemmis, 2011; Webster-Wright, 2009), but all view practices as being dependent on shared skills and understanding. A central core of practice theory is that it defines practices as embodied, materially mediated arrays of human activity centrally organised around shared practical understanding (Schatzki, 2001:11–12) – embodied because the very nature of practices involves human behaviour, such as emotions, behaviour and attitudes, which are critical elements in the production of new practices and knowledge, the epistemology, informing the production and reproduction of social life, the becoming and being of human life and the ontology of practices. The notion of embodiment is rooted in the idea that the “body is the meeting point of both the mind and the activity, the social make-up of the individual” (Schatzki, 2001:17).

However, says Schatzki (2001:17), practice theorists shy away from the idea of analysing human behaviour, be it affective or cognitive, and oppose any idea that explicit rules, such as theory, inform social activity and therefore practice. Having the body on one side (individual) and the social world (totality) on the other, practice theorists approach practices from a crucial viewpoint, namely the priority of understanding, implying that skills can be learnt by all, ‘knowing that’.

However, the ability to utilise those skills is dependent on the understanding of the application of those skills, what I know, and those skills are shared via the bond or connection of activities, which is rooted in a shared understanding and create new knowledge about the practices (Schatzki, 2001:18). Thus, it seems, from practice theorists' point of view, we need to 'know how' (practice) in order to develop the 'know that' (theory), basing this on Ryle's (1945) contribution to the theory–practice debate.

According to Bazin (2010), practice theorists also note that, despite learning being a shared process within a collective, the thinking about those practices or experiences still takes place at individual level, despite the individual being part of the collective. Ideas and experiences are cognitively created (or theorised) by the individual, which are then shared within the collective, implicitly or explicitly.

Returning then to the theory–practice debate, and using the Aristotelian perspective of *phronesis*, *poiesis* and *praxis*, one is reminded about the idea of Waghid and Davids (2017), which states that these activities are never distinct from each other as they form a nexus of activities. *Poiesis* and *praxis* are individually created but collectively shared. This then creates the discourse around ideas of practice within the collective from the individual, creating new knowledge that, despite being part of the collective, practices are enacted by the individual alone within the context of the person. Experiences and reflection are done, at the moment of the enactment, as a solo activity. However, because learning, via inquiry and experience, encompasses processes at both individual and collective level, learning about a practice must entail a process of knowledge creation (i.e. epistemology) and a process of enactment and becoming (i.e. ontology), that is, becoming a practitioner (Elkjaer, 2005:49).

Extending the idea of what practice theories are, Corradi et al. (2010:268) define practice theories along two dimensions:

- firstly, viewing a practice as an empirical object, namely the idea that practices and the processes become the focal point of study when observing the activities or 'doings and sayings' of the practitioners; and
- secondly, practices as a way of seeing, that is, how the context of the practitioner creates new knowledge for understanding and how that practice is situated within the context of the organisation or institution.

Practices are then not only about what we do, but probably more importantly, where the practice is enacted. Thus, practice theorists also view context as a crucial component as many consider the context in which the individual enacts his or her practice as the driving force for creating new practices. Sharing this viewpoint, researchers Webster-Wright (2009), Corradi et al. (2010) and Kemmis (2011) contend that the locus of the contexts maps out the practices to be enacted.

Nevertheless, even here, we have different viewpoints of the influence of contexts on practice. Philosophers question how context informs practice whereas sociologists question how practice informs context.

However, most practice theorists prefer the philosophical stance on context and practice because despite developing theories on how practice may occur, practice theorists avoid asking questions relating to how people enact their practices within the social milieu. The nature of human life is just too erratic to even contemplate the 'doings and sayings'. Also the context, be they schools, organisations, or the like, within which practices are enacted, are themselves complex social structures by nature.

Another viewpoint on practices is that there are no set rules for certain practices. According to Schatzki (2001) and Barnes (2001), this varies from context to context, and agreements verbal, oral, tacit or implicit could determine the set of practices for a particular activity, shifting towards practices as a collective, defined by paradigms and not bounded by theories, but encouraged by social interactions and discourse. Practices can thus be viewed as governed by thought and innovation, free of theoretical constructs or concepts, invoking the Aristotelian notions of phronesis, poiesis and praxis. Because school contexts differ, teachers act in a way appropriate to their teaching contexts. Teachers do not necessarily dwell in the land of theory, as they are always in the land of practice, guided by the context within which they find themselves.

Despite theorising via thought process (i.e. poiesis), this theorising could be construed as a personal set of rules or a blueprint for enacting their practice (i.e. praxis), within a specific context. However, within teaching practices, this context-informed personal blueprint is constantly in tension with institutional, policy and curricular needs. The latter are guided by policy documents, prescribed and based on a particular educational theory, whether governed by behaviourism or by constructivism.

These theories usually advocate a one-size-fits-all model, which results in teaching being governed by curricula policy, outlining a set of established rules, suggesting that teaching is either a set of context-dependent descriptive actions (a personal blueprint) or a set of procedural actions, independent of context (an institutional blueprint).

Barnes (2001:29) argues:

Practices are often cited in order to explain things, including notably their own enactment. It may be said, for example, that something is done because it is traditionally done, or routinely done, or done because it is part of the practice of the collective. The problem of why human beings should enact the practice is thereby completely glossed over.

The danger of using theory to inform a set of practices may lead to procedural actions versus descriptive actions, i.e. knowing what to do versus knowing how and when to do it.

Korthagen and Kessels (1999:7) also highlight the dangers of procedural knowledge within a teacher education environment, state that despite teachers being exposed to theoretical methods and strategies for many types of situations and contexts, many do not have the ability to adapt to the context within which they practice. Doing things routinely does not apply to every context. This procedural, routinized manner of teaching, the researchers argue, is a consequence of teacher education programmes being presented as a collection of separate courses in which theory is presented without much reference to practice (Korthagen & Kessels, 1999:4).

Practice theorists thus agree that practices provide the platform for human development and change. Essential to this development and change are the 'doings and sayings', whilst engaging in a social collective.

Other points of agreement amongst practice theorists are that practices form an array of human activity, socially mediated by humans, or non-human artefacts, dependent on shared skills and are context-dependent. Practices are also embodied, implying that ownership of said practice belongs to the practitioner and is unique to his or her context. There are also no set rules for practices, as the practices vary from context to context, as they are created via ways of thinking, rather than influenced by theories. Using theories to develop practices may lead to practices that are procedural or scripted rather than descriptive or evolving. Practice theorists also shy away from analysing human behaviour during the production and enactments of practice, rather focusing on the formation of new knowledge and manifestation of new skills.

As stated in the title, this thesis reports on a conceptual analysis of practice and how it relates to a practice-based teacher professional learning programme at Stellenbosch University.

As stated within my conceptual and theoretical framework in Chapter 1 (see 1.5), to analyse a concept reflects the ability to use words or theory associated with the concept appropriately to understand the principles associated with the concept. In trying to understand the concept of practice, the present study ventured into analysing and discussing the theories associated with practice and the principles governing their use.

Thus, when reporting on the analysis of the concept of practice within my literature review, the following unique principles of practice are made explicit, or as Hirst and Peters (1970:4–5) would state, the logically necessary conditions for practices, namely:

- Despite practices being socially mediated, they are enacted individually.
- Practices are to be owned or embodied by the practitioner.
- Practices are context-dependent.
- Practices are not governed by grand theories of education, but guided by thoughts and actions; thinking and doing are not separate activities but form a nexus.

- Practices involve sharing with peers leading to learning that is supportive.
- Practices allow for learning to be continuous and lifelong.
- Practices allow for new knowledge to be created via transformation of existing knowledge as opposed to knowledge being transferred.
- Practices allow for self-reflection and remediation.
- Practices are human activities, but shy away from analysing human behaviour; it is about the 'doings and sayings'.
- Practices lead to human development.

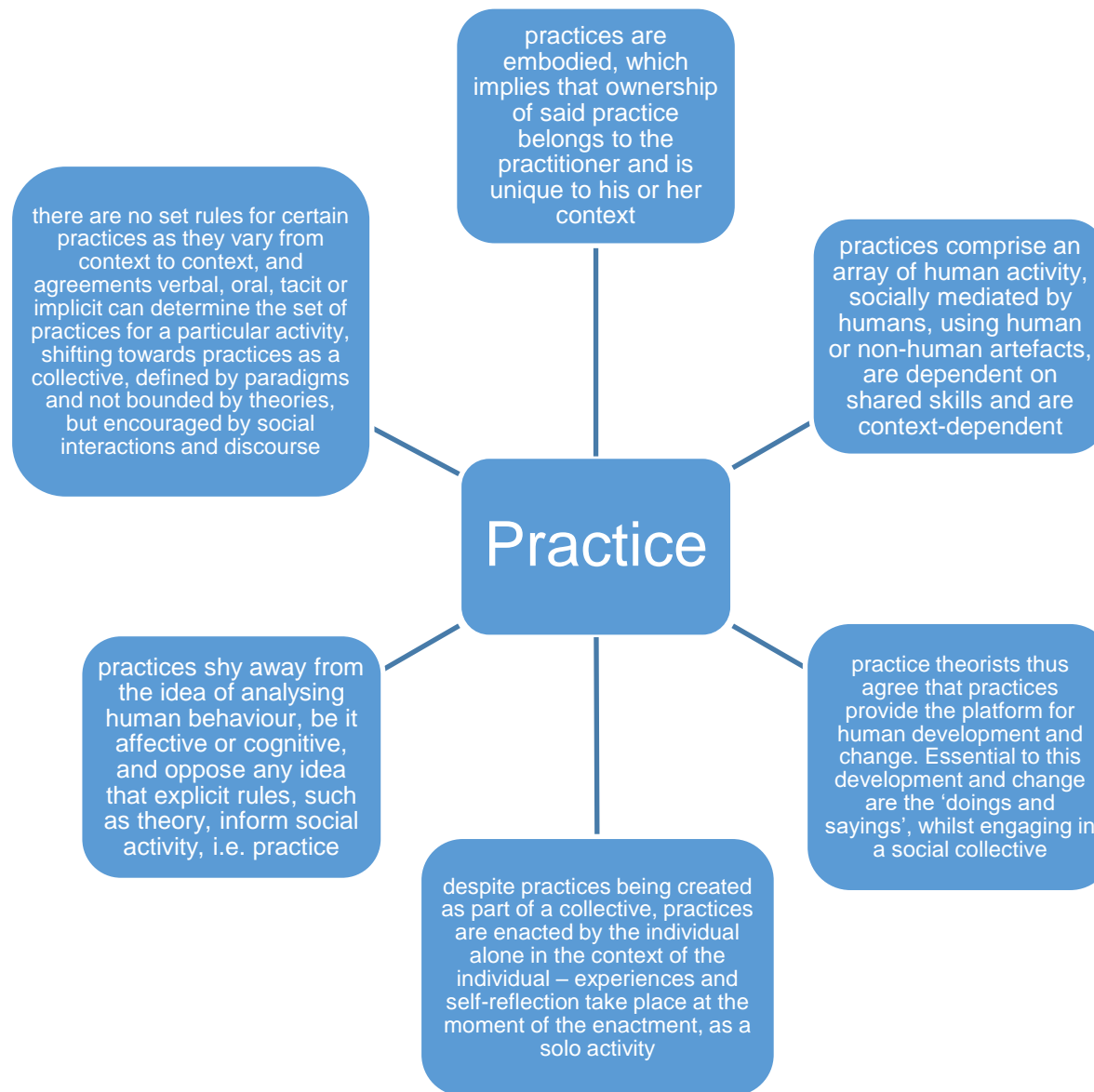
To make the change from professional development to professional learning, these unique or logically necessary conditions of practice could be integrated into teacher education programmes to make teacher education more practice-based, enhancing the efficacy of professional learning and practice.

Taking the abovementioned characteristics of practice into account, I propose my own definition of practice, namely –

Practices are a context-dependent set of embodied activities, individually enacted but socially developed by the practitioner to inform and enhance learning.

In this definition, **context-dependent** implies the situatedness of the practice; **embodied** implies the uniqueness and personal ownership of the practice, **individually enacted** but shared within a collective, tacitly or explicitly, to enhance learning; either as a beneficiary of the practice or co-producer of the practice. Good practices are learnt *in situ* or on site, are socially mediated, encourage reflexive practices and are strengthened by supportive mechanisms, so that theory and practice can form a nexus. Figure 2.1 below provides a diagrammatic conceptual analysis of practice

Figure 2.1: A conceptual analysis of practice



2.4 Practice and its implications for teacher professional learning and/or teacher education

When literature on teacher professional development is surveyed, one prevailing feature is the belief that professional development activities for teachers are generally not delivering on the key expectation, namely leading to enhanced teaching practices and learning for learners. The subsequent dissatisfaction with professional teacher development activities would eventually, locally and elsewhere, lead to harsh criticism, mainly on the inability of such activities to influence teacher capacity and quality of education positively, that is, current teacher education activities concentrate mainly on theory, with no link to the teacher's practice within his or her context. (Ball, 2000; Ball & Bass, 2000; NEEDU, 2012; Korthagen, 2001)

According to Webster-Wright (2009), one assumption on why the current professional development programmes (PDP) are not working is that the professional development is considered a finite process with a definite starting and ending point. These programmes are linked to learning outcomes, determined by theory, with no emphasis on how these outcomes can be integrated into practice. Webster-Wright (2009:705) therefore proposes that we reframe professional development as continuous professional learning (CPL) because learning at work is different to learning by attending PDPs, which focus on theory. The idea is for learning to be linked to the learning of practicing professionals.

Therefore, introducing the concept of professional learning, or more descriptively, continuous professional learning, would imply that the focus is on learning that is ongoing and, by implication, lifelong and holistic, that is, learning should be embedded in elements of practice. This is in opposition to viewing professional development as learning that is finite, episodic, fulfilling a short-term need and atomistic. Learning that is thus separated from the context within which it is applied, or put differently, theory is separated from practice. In expanding on the concept of professional learning, Webster-Wright (2009:715) refers to the idea of authentic professional learning as "authentic tasks that are genuine and embedded in real life", once again referring to the importance of learning within one's context, in that practices are developed within the social and situated nature of the learner. Funnelling this down to the theory–practice debate, and using the arguments of Webster-Wright (2009), professional development could then be viewed as the learning of theory being distinct from practice, while professional learning is where theory and practice, or stated differently, thinking and doing, are inextricably linked.

As this study was about searching for mechanisms to minimise the theory–practice gap within teacher education programmes, this entailed focusing on making the paradigm shift from professional development to professional learning. Learning should not be a finite experience but a lifelong experience of improving one's practice. To do so, learning should be contextual in nature and not be removed from the site of practice.

Developing practice should be about developing a set of descriptive actions as opposed to procedural actions, not just to enforce the status quo, but also to reinvent teachers' practice relevant to the context and constraints that they may experience.

Strengthening her argument for professional learning as opposed to professional development, and using an empirical mixed-method study in her research, Webster-Wright (2009) surveyed professionals who were participants during or involved with professional development (PD) across the United Kingdom.

Webster-Wright (2009) concludes that the professionals who were either involved or participants in professional development training programmes, viewed professional development (PD) as training to keep the professionals up to date. According to Webster-Wright (2009:725), its aim was –

- “[to] regulate and structure professional practice”;
- “supporting the maintenance of professional standards and competence”;
- “did not equate PD with continuing to learn”;
- “next to useless”; and
- “subsequently forgetting half of what they learnt”.

From her research, Webster-Wright (2009:724–725) conceptualises professional learning as:

[E]mbedded and constructed in the experience of being a professional in practice ... practice is not a situation separate from the professional, but a social, dynamic, and integral part of being a professional working in the current context.

Thus, when incorporating the characteristics of practice, professional learning becomes socially constructed, embodied and context-dependent, suggesting that professional learning could be viewed as a mechanism to minimise the theory–practice gap, in other words to integrate theory with practice.

Promoting professional learning as a mechanism to minimise the theory–practice gap, Heather Timperley (2008:11) claims that to promote teacher understanding and effective changes in practices, it is essential that teacher knowledge and skills be integrated. In any successful teacher professional learning programme, theories of curriculum, effective teaching and assessment should be developed alongside their applications to practice. Approaches that combine theory with practice have a positive effect on the efficacy of teaching practice, as opposed to approaches that expound theoretical constructs to teachers without methods to convert theory into sound teaching practice.

Strengthening the argument for professional learning, and as researchers using practice theory to conceptualise professional learning, Boud and Middleton (2003) suggest that for any meaningful professional learning to take place, learning should be integral to practice. Learning as a practice should be examined, as learning is not a practice that exists separate from other practices, and learning should be sustained and perpetuated in any given organisational context.

Ball and Cohen (1999), in engaging in a similar discourse, found that when any educational reform initiatives were instigated, via sessions and workshops, in the United States, professional learning was invoked. However, these sessions and workshops are often –(Ball and Cohen, 1999:3)

[I]ntellectually superficial, disconnected from deep issues of curriculum and learning, fragmented and noncumulative; implying that there is a vast chasm between what people learn and what they do with what they have learnt, ergo, between theory and practice. The sessions were devoid of serious and sustained learning; serving only to update and enforce the status quo.

Ball and Cohen (1999) further argue that traditional instruction of knowledge transference will persist in classrooms if teachers are not schooled in much more thoughtful and challenging work. Much of what teachers need to know should be learned within the context and the moment, by implication, minimising the gap between theory and practice. According to Ball and Cohen (1999:12), since knowledge is situated in practice, it must be learned in practice. This could make professional learning substantially more meaningful and sustainable.

In line with the aforementioned theorists on professional learning, Boud and Rooney (2011), in their article on how professionals learn, also suggest an approach that is based on practice theory. They argue that professional learning should be founded based on what effective professionals do to continue their learning, and it should be located in the kinds of practices that can be sustained in normal work. They consequently propose that professional learning should be viewed within the framework and dimensions of practice theory. Like Ball and Cohen (1999), Boud and Rooney (2011) propose a form of teaching and learning for teachers in which teachers become serious learners in and around their practice. Mingling theory and practice, rather than superficially implementing strategies and activities learnt at workshops, which according to the aforementioned researchers promote theory and practice as two separate entities, as opposed to being a nexus, as suggested by (Davids & Waghid, 2015).

From another professional learning perspective, Raelin (2007:495) argues that the purpose of theory is to inform practice, and theory loses its meaning if not reflected upon in practice. Raelin (2007:506) sees an emerging practice epistemology, which views “learning as a dialectical mediated process that intermingles practice with theory”. Boud and Rooney (2011) also make an argument for combining theory and practice during the process of professional learning. They define professional learning as a set of practices whose purpose it is to realise the learning of the professional. However, many professions, including teaching, still view professional learning as attending and participating in workshops and courses divorced from the site of practice, i.e. a decontextualised version of professional learning, as highlighted in the NEEDU (2012) report. This report, which formed the motivation for this study, states that in teacher education programmes in South Africa, there is no link between what teachers learn at workshops (i.e. theory) and how they enact this new knowledge in their teaching (i.e. practice).

Funnelling this argument down to teacher professional learning Korthagen, Loughran and Russel (2006:1021) state that graduates of teacher education programmes, school administrators, parents and politicians all complain about the insufficient nature of teacher education programmes to prepare teachers for everyday practice. Too much emphasis is placed on theory within teacher preparation programmes.

Theory is transferred to teachers in the form of lectures on philosophy, psychology, sociology and general education, with the view of applying these theories in practice – what is termed the ‘techno-rationality model’ – in which teacher education programmes are a collection of separate courses in which theory is presented without much emphasis on practice (Korthagen & Kessels, 1999:4). However, this theory-into-practice view of teacher education, as the researchers argue, is increasingly being challenged for its many limitations and inadequacies.

After a worldwide study in 1996 on teacher education programmes, researchers Imig and Switzer (1996) concluded that the emphasis of imparting theoretical expert knowledge is not having much influence on the practice of teachers. Korthagen et al. (2006) conclude that the transfer from theory (presented during teacher education) to practice in schools is often meagre, and teacher education practices are often counterproductive to teacher learning. Also at Konstanz University in Germany, a large-scale study was undertaken into teacher education in 1978 and 1979. The researchers concluded that during year one of their teaching, teachers adjust to the practices of the school, which is not based on theories relating to teaching and learning (Korthagen & Kessels, 1999). The adjustment was thus influenced by institutional policy as opposed to personal and professional reasons, alluding to Schulman’s (1983) notion stated earlier (see section 2.2 in chapter 2) that teachers are beholden to institutional factors, brought on by parochial, partisan and political influences.

However, Schoenfeld (1999) acknowledges that there have been attempts in the late 20th century to seek new ways of teacher education, emphasising practice instead of theory, that is, foregrounding practice with theory in the background or as a platform, namely how to connect theory and practice in a way that teachers could practice everyday teaching activities, unique to their contexts. This occurred as far back as 1975, with a study presented by Lortie (1975, cited in Schoenfeld, 1999) in which he concludes that practice forms a dominant role in the development of the teacher.

In their attempt to minimise the theory–practice divide and integrate theory with practice within teacher professional learning programmes, Korthagen et al. (2006:1025–1032) suggest the following fundamental principles to be considered when developing teacher professional learning programmes:

- *Learning about teaching involves continuously conflicting and competing demands.*
Due to the conflicting and demanding nature of teaching, collegial and collaborative spaces within any teacher professional learning programme should be created to mediate learning socially and allow teachers to build their practice from experiences.
- *Learning about teaching requires a view of knowledge as a subject to be created rather than a created subject.*
No theoretical perspective of teaching is carved in stone. Teaching is about adapting your thoughts or theories, to building a theory or theories of teaching organically based on reflecting on practical problems of teaching related to specific contexts and experiences.
- *Learning about teaching requires a shift in focus from the curriculum to the learner.*
When it comes to teaching learners, teachers should focus on the ‘doing’ of the curriculum, rather than on transferring information. Teachers should focus on teaching learners and not be religiously bound to teaching the curriculum – telling is not teaching and listening is not learning.
- *Learning about teaching is enhanced through research.*
Opportunities to engage with research allow for opportunities to direct teachers’ professional learning.
- *Learning about teaching requires meaningful relationships between schools, universities and student teachers.*
Teaching requires an understanding of how theory informs practice and practice informs theory. This is crucial in shaping teacher professional learning programmes, and calls for teachers to have different perspectives of themselves, namely
 - the role of the teacher as a learner;
 - the role of the teacher in the school; and
 - the role of the university in the life of the teacher.
- *Learning about teaching is enhanced when teaching and learning approaches are modelled by teacher educators in their own practice.*
Alluding to an apprentice approach to teaching, teachers need to be exposed to how expert teachers function and to how these experts take professional risks to develop new teaching approaches.

- *Learning about teaching requires an emphasis on working closely with peers.*

Spaces should be created for teachers to engage in self-reflection and sharing. This strengthens theoretical thoughts about pedagogy. These spaces are not limited to physical spaces but include virtual ones.

A similar attempt at offering principles to bridge the theory–practice divide by integrating theory with practice within teacher professional learning programmes is offered by researcher Deborah Ball (2000). Ball (2000) contends that the tension of preparing teachers to bridge the theory–practice divide is still prevalent in the present century, as theory and practice are still being viewed as a dichotomy. The overarching problem, according to Ball (2000) and iterated by Korthagen et al. (2006), is that the conceptualising and organisation of teacher learning programmes “tend to fragment practice and leave to individual teachers the challenge of integrating subject matter knowledge (theory) and pedagogy (practice) in the contexts of their work” (Ball, 2000:242). Sometimes, teachers have an understanding of the content, but they do not usually have sufficient understanding of the pedagogy, to ensure meaningful learning tasks for learners.

This is the challenge of converting the theory learnt into good classroom practice. The questions asked by Ball (2000:244) are “what would it take to bring the study of content (theory) closer to practice and prepare teachers to know and be able to use subject matter knowledge effectively in their work as teachers?” – in other words, what could be done to integrate theory and practice?

Ball’s (2000:244–246) suggestions or principles are as follows:

- *Need to re-examine what content knowledge is required for good teaching.*

The focus here is to determine the purpose of the content within the aims and objectives of the teaching activity. Teachers have the perception that they only need to know what they are required to teach. Mastery of knowledge is required to offer more meaningful practical learning experiences for learners.

- *Need to probe not only what teachers need to know, but also what sort of content understanding and insight matter in practice.*

Ball (2000) refers to an understanding of how to use the subject matter in practice. Firstly, teachers must have the capacity to break down the components of the knowledge to be taught (theory), and secondly, they must infuse the content with pedagogy (practice). By focusing on both the cognitive (theoretical) demands and action (practical) demands of teaching, infusing content with pedagogy would allow for the bridging of the theory–practice divide.

- *Create opportunities for learning to use what teachers know within the varied contexts in which they practice.*

Learning content and pedagogy in the context of the teacher's practice would allow the theory learnt in training sessions to be transformed into practice. The aim is to prepare teachers to teach flexibly in various contexts and to know which skills are required to prepare teachers to teach within any context.

Ball (2000) and Korthagen et al. (2006) thus offer two suggested sets of principles that focus on what professional learning programmes should be focusing on to minimise the theory–practice divide, that is, to integrate theory with practice.

Currently, research is geared to create or define a set of core practices, which focuses not just on the observable actions of teachers, as suggested by Ball (2000) and Korthagen et al. (2006) above, but also on the purposes of such actions, leading to meaningful practices resulting in meaningful learning for learners, as proposed by Mary Kennedy (2016) .

In her research, Mary Kennedy (2016:7–9) relates how attempts to create such a set of core practices started in the 1920s, when the Commonwealth Teacher Training Study extensively and intensively attempted to list all the activities that teachers perform in an effort to ascertain a set of core practices. According to Kennedy (2016), current research is focused on more discrete movements of teachers, such as the movement of teachers in the classroom, that could lead to meaningful learning and broader patterns of observable practice.

Researchers, such as Ball and Cohen (1999) and Kennedy (2016) are focusing on what they refer to as 'core practices' defined as "meaningful patterns of observable behaviour, patterns that reflect widely recognised pedagogical approaches or styles of teaching" (Kennedy, 2016:8). However, Kennedy (2016:9) states that despite the efforts of researchers to parse teaching into bite-size chunks "we have misplaced our focus on the actions we see; what is needed is a focus on the purpose those actions service". The researcher, Kennedy, thus argues that we need to focus on the challenges, rather mimicking actions or behaviours of teaching, as working through the challenges could possibly present itself with solutions to address their teaching practices strategically. Kennedy's portrait of teaching practice is presented as an integrated set of practices, with no reference to activities or behaviours. It is merely a set of proposed challenges, which if addressed properly by teachers, could lead to effective teaching practices. Summarised, these are (Kennedy, 2016:10–14):

- Teachers must portray a curriculum as an active, rather than an inert body of knowledge. This would allow teachers to redesign these activities in accordance with a changing context.

- Teachers must enlist learner participation as learners must choose to learn something rather than be forced to learn something. Teachers must ensure that the content is actively rather than passively presented. It should be placed within the context of the learner's everyday existence, and how what is learnt is critically thought about, thus making it beneficial for the learner.
- Teachers must expose learners' thinking to address any misconceptions or a lack of understanding of the content that is presented. Teachers must act in the moment of the teaching, generating knowledge that could guide the moment.
- Learner behaviour should be contained so as not to distract the learning processes.
- Teaching is an intensely personal and interpersonal activity. Content, pedagogy and theories are important, but they should be addressed and integrated from a personal rather than a prescriptive perspective.

In conclusion, Kennedy (2016:14–15) acknowledges that addressing the above may not address all the challenges relating to teachers' practice, but could hold promise in closing the theory–practice gap for teacher professional learning programmes. There will always be conflict and tension in addressing the above in an integrated manner, but the challenge will always be for teachers to find the most optimal solutions to the above challenges in order to improve their efficacy. Elaborating on this discussion, Kennedy states that the challenge faced by colleges and universities has always been that these institutions are good at imparting bodies of partitioned knowledge or theory, without attempting to link it to the challenges listed above. Kennedy (2016:15) then recommends that colleges and universities –

[D]evelop a curriculum and pedagogy for teacher education that (a) is defined in terms of bodies of knowledge so that it fits in a university context, (b) explicitly addresses the persistent challenges of teaching so that it can overcome novices' naive conceptions of teaching, and (c) relies heavily on representations of teaching practice that enable novices to learn to see the relationships between means and ends.

A curriculum and pedagogy, in my opinion, should not just be applicable to novice teacher training programmes, but also applicable to all teacher professional learning programmes, whether already teaching or still busy with pre-service training.

In summarising, to bridge the theory–practice divide, researchers such as Webster-Wright (2009) and Boud and Rooney (2011) suggest that we make the paradigm shift from viewing professional development to professional learning. We should reframe professional development as CPL and thus move away from the notion of development being a once-off to learning being a lifelong concept, embedding the notion of CPL into the reality of what we do and not outside of where we practice.

Hence, leading researchers such as Timperley (2008), Boud and Rooney (2011) and Raelin (2007) suggest that professional learning should be based on practice theory; a professional learning approach that calls for a combination of theory and practice. A kind of teaching and learning for teachers in which teachers become serious learners in and around their practice, rather than superficially implementing strategies and activities learnt at workshops.

Extending on the notion of using practice theory within professional learning programmes, as a mechanism to bridge the theory–practice gap in teacher professional learning programmes, researchers Korthagen et al. (2006) and Ball (2000) suggest ideas or principles to combine theory with practice within professional learning programmes, and consequently reduce the dichotomous nature of theory and practice. Common to both researchers' suggestions is that teachers must have a deep understanding of the content or subject matter knowledge in order to understand the purpose and the usage of such knowledge to improve their teaching.

Suggesting, therefore, that focusing on deep conceptual understanding of the subject matter knowledge or content should be a core feature of any teacher professional learning programme. Collegial and collaborative spaces must be created to mediate learning socially through self-reflection and sharing. This helps teachers to build their experience and thus create an organically evolving pedagogy of appropriate practices within various contexts. Modelling by experts should also form a key component of the teacher professional learning process as teachers should be taught to take appropriate professional risks to develop their own teaching practice, alluding to mentoring and support.

2.5 Curriculum policy and the practice of teachers within the SA context

After 1994, South Africa has experienced numerous challenges to address the educational neglect of the previous 350 years. During apartheid, before 1994, the education system for all races was based on a particular Afrikaner form of Calvinist principles, called Christian National Education (CNE) (Davids, 2015:3).

Referring to that period, Chisholm (1999:115) says, “teachers’ work in schools was bureaucratic, hierarchical and authoritarian ... control over the curriculum and assessment practices was bureaucratically determined rather than teacher driven” – the political logic of the apartheid education system. As products of apartheid education, teachers were trained in behaviourists’ ways of teaching and learning. Strategies, such as social learning and self-reflection for teachers, were foreign concepts. Teachers were thus isolated in their professional development and their teaching practice was guided by institutional policy documents (Avalos, 2011).

Teachers were essentially told how to teach, what to teach and when to teach, under the guidance of policy documents. In her research on apartheid teacher education in South Africa, Linda Chisholm (1999:115) quotes a teacher, driving home the point of what they were expected to do:

We are not encouraged to teach, instead we are pushed. We are pushed to work. We are just expected to work, work, work, and then the heroes in teaching will never be known. I don't feel encouraged to go on. I go to classes, but I know I'm not going to get anything except my salary.

The above serves as testament to the CNE curriculum implemented during apartheid (i.e. before 1994) in that it was prescriptive and it promoted knowledge transmission through rote learning a defined body of knowledge, viewed the teacher as the knowledge authority, promoted a teacher-centred mode of teaching; thus, stifling creativity and knowledge construction (Christie, 1991; Robinson, 2003; Waghid & Davids, 2017).

The period after 1994 saw the onset of a democracy in South Africa, and from an educational perspective, the drive was to create one national education department in contrast to the 19 education departments which existed before 1994. Before 1994, there were four education acts, namely the National Education Policy Act (1967) for whites, the Bantu Education Act (1953) for blacks, the Coloured Persons Education Act (1963) for coloureds and the Indian Education Act (1965) for Indians. After 1994, South African education saw the introduction of one new National Education Policy Act introduced in 1995, that would tend to the educational needs of all races in South Africa (Christie, 1991:175).

Moreover, the school curriculum was changing rapidly to address the inequalities of apartheid, moving away from a behaviourist learning approach to a more constructivist learner-centred approach with which teachers were not fully au fait. This restructuring of education, in particular the new curriculum, to address the injustices of the past, drew essentially on what was judged to be best international practice, as well as local values (Christie, 2006:379).

The challenge for the new democratically elected government was to introduce a new school curriculum that would address concerns around efficiency, content and purpose, but at the same time deal with the social and economic disparities of apartheid (Davids, 2015:2). However, Jansen (2001) states that a school curriculum is nothing more than a political statement reflecting the struggles of opposing groups to enshrine their interests, values, histories and politics. Thus, the intent of the new school curriculum was noble and courageous, but the results thereof were disconcerting

Accompanying the enactment of the National Education Policy Act (1995), were three national curricular reform initiatives (Jansen, 1998:321):

- the first was to remove the racially offensive and outdated content implicit in the apartheid curriculum;

- the second was to introduce continuous assessment in opposition to the formal examinations which perpetuated rote learning; and
- the third – probably the boldest – move was to introduce OBE, focusing on outcomes linked to skills at the expense of content

From a teaching perspective, the introduction of OBE – through the curriculum known as Curriculum 2005¹ – saw teaching move away from the teacher-centred approach towards a learner-centred approach, and knowledge transformation instead of knowledge transmission (Chisholm, 2005; Christie, 1991; Jansen, 1998). However, as Chisholm (2005:213) notes, the post-apartheid government inherited a group of teachers who were trained along CNE principles with a behaviourist teacher-centred approach, which encouraged rote learning. Thus, teachers who were trained in the teacher-centred mode of teaching before had to be reskilled into utilising a learner-centred approach.

Because of the rapidly changing pace of changes to curriculum policy and associated implementation, there was not enough time for teachers to adapt to these changes; thus began various PDPs within schools funded by private donors and government education departments, to assist teachers in dealing with these pedagogical changes. Examples of these programmes were the Advanced Certificate in Education (ACE) in various subject fields, which was considered a long-term learning programme.

The aim of the ACE was to strengthen the content knowledge of teachers, with not much emphasis on application of knowledge, and to allow teachers access to postgraduate academic programmes, such as honours programmes, to improve their teaching qualification. The duration of the ACE was two years, part-time and the national DBE funded it. There were also short-term options presented as short courses. The aim of these short courses was to improve the content knowledge of teachers, by focusing on specific gaps in teachers' content knowledge.

The Education, Training and Development Practices Sector Education and Training Authority (ETDP-SETA) generally funded these programmes. Funding for the ETDP-SETA came from the Workplace Skills Fund. This fund consists of contributions (mandated by government) from salaries of civil servants, which included teachers.

Although the changes proposed in the new Curriculum 2005 were based on sound educational and pedagogical theories, as contained in the principles of OBE, the training of teachers in implementing the curriculum – on the part of the national education department – was, however, poor and poorly prepared. While facilitators of these curriculum training programmes were often poorly informed about the Curriculum 2005 itself, many teachers were not prepared to embrace the changes.

¹ The main initiative since 1994 has been the introduction of outcomes-based education and Curriculum 2005 in 1997. At the heart of Curriculum 2005 is a set of values linked to social justice, human rights, equity and development, as well as a learner-centred approach to teaching and learning (Chisholm, 2005).

Teachers saw these changes being foisted upon them with no amount of consultation or consideration about the current challenges they were facing in the classroom, namely large classes, ill-disciplined learners, a lack of teaching resources, a lack of professional support and, in part, the obtuse language embedded in these educational and pedagogical theories, which made no sense to teachers (Jansen, 1998). According to Cross, Mungadi and Rouhani (2016:181), the ill-prepared implementation strategy of Curriculum 2005 saw teachers being trained in ad hoc workshops in place of proper teacher training, using the cascade model of training, where information was filtered down but became watered down or misinterpreted. It was thus no surprise that teachers struggled with the new terminology of OBE, such as objectives, outcomes and outputs. Teachers also discovered they had no access to resources or information, were overburdened administratively as the process heavily leaned towards compliance rather than teaching, and there was very little understanding of the idea of continuous assessment (Chisholm, 2005; Cross et al., 2016; Jansen, 1998).

Teachers also struggled with the descriptive nature of OBE in that it was skills-based rather than content-focused. This allowed teachers carte blanche in developing their own learning programmes, based on the description of the skills outlined in the policy documents and linked to any grade-appropriate content – teaching and learning were open and non-specific (Davids, 2015:3).

After teachers and researchers had highlighted all the issues and challenges around OBE, the curriculum was reviewed and born out of this was the Revised National Curriculum Statement (RNCS) in 2002 and then the CAPS in 2013. Chisholm (2005:218) says the revision was a response to studies that showed that –

[D]espite the new curriculum and pedagogy which it mandated, learners scores are far below what is expected at all levels of the schooling system, both in relation to other countries (including other developing countries) and in relation to the expectations of the South African.

Another challenge, according to Jansen (1998), was that teachers were expected to learn terminology associated with OBE, based on theoretical underpinnings which qualified and under-qualified² teachers did not understand. OBE was thus introduced into an environment where there was a weak culture of learning, exacerbated by teachers' lack of knowledge and training, unqualified teachers and the dismal resource status of schools.

All this revision was designed to find a solution to the outcry from teachers for more structured content and less generic outcomes, as many did not have access to information on OBE and did not understand the information, if available, on OBE.

² At the time of this study, the official requirement for a qualified teacher in South Africa is a matric (school-leaving certificate or Grade 12 certificate) plus four years of initial teacher education at a tertiary institution such as a college or university. Anything below this is considered under-qualified or unqualified (Centre for Development and Enterprise, 2015).

There was certainly no point in teaching a child how to count if he or she did not know what to count. At the time of this study, CAPS is based on a 'back to basic' approach in that there is a defined body of knowledge that needs to be assessed formatively and summatively, alluding very much to CNE – thus, it would appear, back to being prescriptive. However, the unintended consequence of these curricular changes and retraining of teachers left our current educational system none the stronger, as indicated by the learner results in table 1.1, 1.2 and 1.3.

Workshops to up-skill teachers in OBE were decontextualised, episodic and finite in nature, not addressing teaching practice, but rather dealing with policy understanding and implementation with the view to complying around what must be completed and submitted (Robinson, 2002:295).

In a report by Spaul (2013), entitled "South Africa's education crisis: The quality of education in South Africa 1994–2011", one of the findings indicates that the existing body of evidence suggests that a large proportion of SA teachers have below-basic content knowledge in the subjects that they teach. This is largely because of inadequate apartheid-era teacher training and the ineffectiveness of in-service teacher training initiatives. In the light of this, and following the premise that teachers cannot teach what they do not know, it follows that a system of identifying which teachers need which help, is urgently required. After investing billions on PDPs in this country, the educational challenges continue (Spaul, 2013:27).

Another challenge was the slow pace of educational change brought about by political and bureaucratic forces. On the bureaucratic front, after 1994, the newly established Department of National Education (DNE) had to accommodate two tiers of bureaucracy. The Department was obliged to accommodate apartheid staff, with the proviso that no retrenchments were to take place, a so-called 'sunset clause' (Cross *et al.*, 2016). Whilst accommodating old apartheid bureaucrats, the DNE also had to integrate them with the radical unionists from the education unions, who fought for the demise of apartheid. The tensions that arose resulted in the slow pace of change in education, affecting all levels, within the areas of, for example, curricular and teacher development (Cross *et al.*, 2016:177).

Morrow (2007a) highlights two further challenges with teacher training in an SA context. Firstly, during pre-service teacher training, teachers are trained to teach in a specific phase of the curriculum. However, when these teachers start their teaching careers, they may find themselves teaching in an entirely different phase and subject, because that is where the gap exists in the school. Adding credence to this assertion, the NEEDU (2012) report stipulates that the provincial and district officials were dissatisfied with the quality of newly and currently qualified teachers, indicating that there was a disjuncture between the skills needed for schools and the content knowledge of new and current teacher graduates.

To avoid the frustration and failure experienced by new teachers when starting off their teaching careers, Morrow (2007a) recommends that teacher education programmes at tertiary institutions should consider programmes that offer a “deeper understanding of some field of knowledge” extending to a deeper understanding than the school curriculum (Morrow, 2007a:105). Secondly, teacher education programmes fail to make the distinction between the formal and material elements of teaching. The formal refers to a decontextualised conception of teaching and the material refers to the skills and resources teachers would need to teach in a non-context-bound way of teaching. Teacher education programmes, whether in-service or pre-service, should not assume that all school contexts were the same. According to Morrow (2007a:105):

[U]nless the learners come to an effective practical understanding of the formal element of teaching – a non-context bound conception of teaching – they are unlikely to be able to develop the flexible competencies which will enable them to teach, no matter how unpromising the contexts and conditions may seem.

A consequence of the above is that teachers’ work in South Africa is driven by national, provincial and institutional policies, which tend to stifle teacher creativity and practice. Their practices became politicised and driven by institutional requirements. As Carr (2005:153) states:

[T]he practical influence of educational theory will have been determined by local and contingent factors and will vary according to shifting configurations of political expediency, dominant interest and vested power ... [thus] role played by educational theory will have been 'political' and 'rhetorical' not 'theoretical'.

2.5.1 Influence of curriculum policy and teachers’ practice on learner performance

If what Jansen (2001) says – that a curriculum is nothing more than a blueprint to drive a political agenda of the state – then the current practices of teachers in SA schools are driven by policies to achieve political and social objectives of interest to the state and not the objectives of teachers or learners. However, 20 years after the introduction of OBE national tests, such as the ANAs for Grades 3, 6 and 9, as well as the National Senior Certificate (NSC) (school-leaving examinations for Grade 12), the picture is bleak.

In terms of learner progress in Literacy and Numeracy in Grades 3, 6 and 9 and Mathematics and Science in Grades 12 – despite slight improvements in the results over the years since its inception – the ANAs still indicate that less than a quarter of all Grades 3, 6 and 9 pass these Literacy and Numeracy tests. In Grade 12, less than a third pass Mathematics and Science (refer to Tables 1.1, 1.2 and 1.3).

Strengthening this line of argument by referring to the two tables below – Table 2.1 indicates which percentage of learners, who wrote the NSC examinations in 2013 to 2016, achieved a pass rate of 30%³ for each subject. One can clearly see that, despite slight increases in the 2016 NSC examination, the pass rate had decreased in every subject from 2013 to 2015. The year 2016 reflects, in some instances, slight improvements, but not quite the shift to consider the change as significant. Table 2.2 indicates the performance, on a national level, of our Grade 1 to 6 and Grade 9 learners who wrote the ANAs. These tables (see for instance, Table 2.2) indicate the marks, in percentages, achieved by learners in the areas of Mathematics, Home Language (mother tongue) and First Additional Language (language spoken in addition to mother tongue). Despite improvements in the performance of Grade 1 to 6 learners in all three subjects, the results for Grade 9 are a cause for concern. These learners are supposed to have the appropriate skills to complete Grades 10 to 12, the last phase of their schooling career, successfully.

Table 2.1: Learners' performance above 30% in selected subjects

Subjects (Full-Time)	2013			2014			2015			2016		
	Wrote	Achieved 30% & Above	% Achieved	Wrote	Achieved 30% & Above	% Achieved	Wrote	Achieved 30% & Above	% Achieved	Wrote	Achieved 30% & Above	% Achieved
Accounting	145 427	95 520	65.7	125 987	85 681	68.0	140 474	83 747	59.6	128 853	89 507	69.5
Agricultural Science	83 437	67 308	80.7	78 063	64 486	82.6	104 251	80 125	76.9	106 386	80 184	75.4
Business Studies	218 914	179 329	81.9	207 659	161 723	77.9	247 822	187 485	75.7	234 894	173 195	73.7
Economics	150 114	110 869	73.9	137 478	94 779	68.9	165 642	112 922	68.2	155 908	101 787	65.3
Geography	239 657	191 834	80.0	236 051	191 966	81.3	303 985	234 209	77.0	302 600	231 588	76.5
History	109 046	94 982	87.1	115 686	99 823	86.3	154 398	129 643	84.0	157 594	132 457	84.0
Life Orientation	569 530	568 311	99.8	542 956	540 810	99.6	660 202	658 308	99.7	663 975	661 903	99.7
Life Sciences	301 718	222 374	73.7	284 298	209 783	73.8	348 076	245 164	70.4	347 662	245 070	70.5
Mathematical Literacy	324 097	282 270	87.1	312 054	262 495	84.1	388 845	277 594	71.4	361 865	257 881	71.3
Mathematics	241 509	142 666	59.1	225 458	120 523	53.5	263 903	129 481	49.1	265 810	135 958	51.1
Physical Science	184 383	124 206	67.4	167 997	103 348	61.5	193 189	113 121	58.6	192 618	119 427	62.0

Source: DBE (2016)

³ 30% is the pass mark for all subjects written in the NSC Examinations for Grade 12

Table 2.2: Performance of Grade 1–6 & 9 learners in the ANAs from 2012 to 2014 in Mathematics, Home Language and First Additional Language.

GRADE	MATHEMATICS AVERAGE PERCENTAGE MARK		
	2012	2013	2014
1	68	60	68
2	57	59	62
3	41	53	56
4	37	37	37
5	30	33	37
6	27	39	43
9	13	14	11

Summary Table for Home Language in 2012, 2013 and 2014

GRADE	HOME LANGUAGE 2012	HOME LANGUAGE 2013	HOME LANGUAGE 2014
1	58	61	63
2	55	57	61
3	52	51	56
4	43	49	57
5	40	46	57
6	43	59	63
9	43	43	48

Summary Table for First Additional Language in 2012, 2013 and 2014

GRADE	FIRST ADDITIONAL LANGUAGE 2012	FIRST ADDITIONAL LANGUAGE 2013	FIRST ADDITIONAL LANGUAGE 2014
4	34	39	41
5	30	37	47
6	36	46	45
9	35	33	34

Source: DBE (2015)

Reflecting on the statistics given in Tables 1 to 5, one could say that if it was the intention of the new curricula to improve teaching and learning to afford learners improved opportunities for learning, then clearly this has not been achieved.

Attempting to find answers to this SA challenge, in a report entitled “Identifying binding constraints in education”, Van der Berg, Spaull, Wills, Gustafsson and Kotze (2016:8) state the following:

A large body of local research has shown that many teachers lack basic levels of content knowledge and pedagogical skills. The Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) 2007 study assessed Grade 6 Mathematics teachers as well as their learners. This study showed that only 32% of Grade 6 Mathematics teachers in South Africa had desirable subject knowledge in Mathematics, compared with considerably higher proportions in other countries such as Kenya (90%), Zimbabwe (76%) and Swaziland (55%).

It would seem that the challenge is related to teachers' content knowledge and how that knowledge is transformed and utilised in practice, alluding to unsuitable teacher training efforts that are not addressing these challenges of content knowledge and pedagogy (practice). Strengthening the aforementioned assumption, educational managers from various provinces and educational districts indicate that afternoon workshops and cluster sessions, used to capacitate in-service teachers, were proving ineffective in most instances (NEEDU, 2012). SA educational researchers Jansen (1998) and Robinson (2002) also note that during the training of teachers, in order to implement curricular changes, education officials conducted training sessions that were once-off information sessions devoid of teaching practice, constraint for time and more about policy implementation. This, coupled with the cascade model of training, saw teachers become increasingly confused as the model entailed a filtering down of information. This model allowed information to cascade or filter down, but the original ideas and principles were watered down or misinterpreted down the ranks. This resulted in a lack of confidence in knowledge and understanding for the trainers (Robinson, 2002:294). An additional challenge was that there were more under-qualified, as well as unqualified teachers than qualified teachers, which made re-training the teachers a daunting task.

Another challenge was that policy renewals and curricular changes were policy documents foisted upon teachers, and teachers did not understand the conceptual underpinnings and curriculum imperatives. According to Duff (1995, cited in Cross et al., 2016:172), government's approach to policy processes and implementation was top down, with hardly any space for stakeholder or civil society participation. This approach led to resistance from unions and its teachers, who created a facade of reform, acting out a role of teaching that was legislated by the state, or following the political blueprint. These new practices that is, new content, new structures and new pedagogies, were seen by teachers as placing additional practical demands on them.

Summarising, one can say that the changes in the curriculum after 1994 saw teaching make a paradigm shift from the behaviourist teacher-centred approach of teaching to the constructivist learner-centred approach. Teachers who were trained under the behaviourist approach had great difficulty in making the paradigm shift to the constructivist approach.

Many had not grasped the philosophical and theoretical underpinnings of the learner-centred constructivist approach to teaching. Policy documents from the new national education department after 1994 served as guides for teachers to make this paradigm shift. It provided guidelines on how teachers should teach or practice their craft in order to reach the outcomes of the new learner-centred curriculum. However, the constant changes to the curriculum created confusion amongst teachers as they were not au fait with the terminology associated with the new curriculum. Workshops to align teachers' thinking with regard to the new learner-centred approach were once-off and finite with no practical application of the theory within the context of the teacher (NEEDU, 2012). The support offered to teachers after these workshops dealt mostly with compliance matters as opposed to implementing the skills learnt in the workshop(s) in a practical way. The NEEDU (2012) report and the Van der Bergh et al. report (2016) offer evidence of the above, and as a consequence of these finite workshops with no practical implementing component, teacher training had not produced the quality of teachers South Africa needed – testament to this is the poor results of our systemic, ANA and matric examinations.

In an attempt to rectify this wrong, the DBE has requested alternative teacher education programmes, based on practice, thus minimising the theory–practice debate – what happens in training and what happens in classroom.

2.6 Chapter summary

The theory–practice debate will remain an enduring one. Starting early in the 20th century, modernists' attempts at prescribing teaching and using philosophical texts as a rigid objective set of scientific rules that would inform teachers practice were formulated – simply because teaching cannot be based on custom, habit and tradition; it has to be informed by some objective principle(s) called theory. Post-modernists, on the other hand, are saying let us forget these grand educational theories informing practice and allow teachers to develop their own practices, within the moment and the context in which they teach. As Schatzki (2001) states, let us focus on the 'doings and sayings' of teachers. Currently, post-modernists perspectives of the theory–practice debate include looking at Gilbert Ryle's (1945) notion of 'knowing how' and 'knowing that', moving to Polanyi's (1966) notion of tacit knowledge and its importance in determine the practices – not forgetting the Aristotelian approach to thinking about practices in terms of the viewing of the theory–practice debate as cyclical in nature in terms of phronesis (thinking), poiesis (planning) and praxis (enacting). Then finally, there is Hardy's (2012) use of 'dirty theory' to develop a conception of professional education practice, which basically states that teachers must engage in ongoing reflexive actions – everything else is 'grist to the mill'. All these perspectives try to make sense of the theory–practice debate, with each perspective viewed as adding to the enduring debate. However, one thing is certain, good theory can add value to practice, but practice can also strengthen good theory.

In an attempt to conceptualise and define practice, explaining and discussing the characteristics of practice become crucial. Practices, as proposed by practice theorists, are defined as human actions that are embodied, that is, personal and enacted by the individual, best learnt within a social collective, and are context-sensitive. Despite practices being learnt socially, it must be noted that practices are enacted individually, but share tacitly or explicitly within social environments.

Most practice theorists agree that there are no set rules for determining practices and the knowledge generated – whether tacit or explicit – is what informs new practices. Most practice theorists do not pay too much attention to theory, as they feel that theory makes practices procedural rather than descriptive.

Also, most importantly, is the context-sensitive nature of practice. Practice theorists all agree that context informs practices and not the other way around. In teaching, these are both crucial, but also the most contentious around teaching practices. Context forms the locus of practices, and this can never be underestimated in teaching. Practice theorists all agree that practices are crucial to human development and change. Therefore, in order to make learning practical, it must take into account the context, embodiment, individuality, self-reflection and social nature of learning. According to researchers these are elements that could inform teacher professional learning.

Placing the theory–practice debate and notions of practice in teacher education, much has been researched on how elements or characteristics of practice could be conceptualised and influence teaching. Incorporating elements or characteristics of practice could be viewed as a panacea for teacher education programmes that are considered as being finite, devoid of context and lacking curricula combining theory with practice. Researchers, such as Timperley (2008) and Boud & Rooney (2011) are now calling for a more integrated approach to teacher education, by looking at how aspects of practice could be incorporated into theoretically focused workshops, so that teachers could become more focused on on-site training within the context and the moment, and training and learning that are ongoing. This is why researchers, such as Webster-Wright (2009) and Ball & Cohen (1999) are proposing that we reframe professional development to professional learning, highlighting notions of professional development as finite and professional learning as infinite. Researchers state that professional learning should be based on practice theory, an approach that combines theory with practice.

Researchers, such as Korthagen et al. (2006), Ball (2000) and Kennedy (2016), all call for focusing on core set principles of practice that would bridge the theory–practice divide in professional learning for teachers. At the time of this study, research was looking at focusing on understanding the meaning and purpose of the actions of teachers by attempting to find solutions to various challenges they experience. It is those challenges, researchers feel, that when addressed integratively, could lead to establishing a core set of practices, which will be portable and which could be applied to all teaching situations, since these core practices stem from proposed solutions to generic challenges by teachers.

Teachers in South Africa have experienced many curriculum changes, ranging from the procedurally based curriculum during apartheid, called Christian National Education (CNE), to the descriptive OBE and now back to the procedurally focused Curriculum Assessment Policy Statement (CAPS). All of these are informed by behaviourist or cognitive educational theories, manifested in policy documents designed by the government of the day and linked to the aims and objectives of establishing economic and social upliftment for its citizens. But teachers are confronted by changing social, economic and psychological factors daily, and are also beholden to changes in institutional factors brought on by parochial, partisan and political influences, making teaching an impossible task. Despite these curricular changes, workshops designed to inform these curricular changes after 1994, were finite and episodic in nature, focusing on grand educational theories, leading to deficiencies in practice, with teachers thus becoming instruments of compliance. As a consequence, teachers became deficient in subject knowledge and pedagogy.

There were also challenges relating to the training of teachers who were unqualified or under-qualified. In an attempt to address all these issues, professional learning programmes such as the long-term ACE and various short courses, funded by government and/or ETDP SETA, were set up by various organisations, but in most cases these courses were devoid of practice, and heavily laden with theory. In some cases, the cascade model was used to reach large teacher populations, driven by economics. But an unfortunate consequence of this caused a watering down of information. Currently, our attempts at addressing the challenges around teaching and teacher education have not yet lead to improved teaching practice as our NSC results have been dropping year on year, and similarly for the ANAs (for the lower grades).

The literature clearly states that to address issues around teacher content knowledge and pedagogy within teacher professional learning initiatives, theory must be integrated with practice. Research done in South Africa and reported in the NEEDU report of 2012 and which focused on the state of schooling in South Africa, listed concerns about pre-service and in-service teacher education.

After evaluating examples of successful teacher professional learning programmes, such as the Western Cape Education Department's (WCED) Cape Teaching and Leadership Institute, Gauteng's Sci-Bono Discovery Centre and Maths and Science Teacher Education College (MASTEC) (NEEDU, 2012:15) in various provinces in South Africa, the report acknowledged the successes of these programmes. However, at the time, the NEEDU (2012) report recommended that there was still much work to be done on bridging the gap between theory (academic input) and practice (teaching). The report recommended that the DBE commission a study to investigate alternative models for effective teacher education.

This recommendation of seeking effective models for teacher education resonates strongly with researchers Boud and Rooney (2011), Raelin (2007), Schatzki (2001) and Webster-Wright (2009) who align themselves to the idea of teacher professional learning entrenched in practice.

In order to ensure the validity and reliability of the research within this thesis, I outline my research methods and designs for this study in the next chapter.

Chapter 3: Research design

3.1 Introduction

The purpose of this study was to interpret and understand what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. This study was therefore an attempt to understand what professional learning is for teachers, and what the implications are for their practice. This chapter will provide an outline of the research design, methodology and data analysis methods used in the study to answer the research questions related to the study of a practice-based approach to teacher professional learning. A description of the research design, research methodology and methods to analyse the data are made explicit. Issues around ethics, validity, reliability and bias will be stated, as well as listing the limitations of this study.

To begin this chapter, I would like to remind the reader of my main and sub-research questions originally stated in section 1.4 of this thesis.

The main research question was:

What influence does the concept of practice have on bridging the divide between theory and practice on a practice-based teacher professional learning programme within Stellenbosch University?

The research sub-questions are:

- What are the philosophical and epistemological dimensions of practice theory?
- What influence do these philosophical and epistemological dimensions of practice theory have on conceptualising the components of a practice-based teacher professional learning programme?
- From the literature, what are the components for an effective practice-based teacher professional learning programme?
- What are the current successes and challenges of teacher professional learning programmes utilising a practice-based approach within Stellenbosch University?
- How can these challenges and successes inform teacher professional learning policies within an SA context?

3.2 Research design

According to Creswell (2003), social constructivists or interpretivist assume that individuals seek to understand the world they occupy and within which they work and live. The meanings that individuals develop about the place they occupy in this world are subjective meanings of how they experience things. This leads to multiple and varied views of trying to understand what it is that people do, and how this places or positions them in this world and what they do and how this affects the work they do. The purpose of this study was to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. This was an attempt to understand what professional learning is for teachers and the implications for their practice. Thus, using the social constructivists' paradigm, the focus was firstly to understand the concept of practice via conceptual analysis, and then to interpret how this understanding of practice influences the phenomenon of practice-based teacher professional learning, via phenomenology. The aim of this research was not just about exploring the understanding of practice, but it also focused on interpreting the research participants' views of attending a practice-based teacher professional learning programme, to support my conceptual analysis of practice and its implications for teacher professional learning. Hence, this research firstly set out to explain and discuss the concept of practice, and then to address the interactions among individuals and to focus on the specific contexts within which the research participants lived and worked. The intention was to make sense of or interpret the meanings others may have had about the phenomenon of practice-based teacher professional learning, thereby strengthening the conceptual arguments around the components of practice that could influence teacher education programmes.

3.2.1 Conceptual analysis as a research methodology or paradigm

Within an educational and social science context, research is viewed as a means of providing us with initial and provisional ideas about the world around us, but not in a finite sense, since the world is always evolving and changing. What is valid today, might become invalid tomorrow (Oliver, 2013:3). As the epistemology of things is always evolving and changing, it implies that knowledge of things (which include concepts) will always be contested. For Maggetti, Gilardi and Radaelli (2015:16), concepts are the building blocks of research but they have to be organised if they are to provide any explanations. Concepts, within certain research endeavours, could become very complex and thus contested on the nature of their meanings, and it thus becomes important to clarify concepts explicitly. A process that uncovers or explains the meaning of concepts, and the way they are used within different contexts, is called conceptual analysis. It also links to the way people use concepts, and ideas that create conceptual understanding or meaning (Oliver, 2013:9).

For Kahn and Zeidler (2017:541), conceptual analysis begins with an idea or intuition on the part of the researcher regarding a premise about a particular phenomenon, episode or event. The researcher then inductively sets out to determine necessary and sufficient conditions to develop a theory or revise an existing theory. This infers that the researcher relies on a priori knowledge, which for critics of conceptual analysis, within the paradigm of the positivists and logical empiricists, arouses suspicion and scepticism regarding the mode of enquiry by constantly questioning the role and validity of thought experiments and intuition in research. However, for philosophers, conceptual analysis remains the foundation for analytical thought in clarifying concepts and theories, thereby preparing them for empirical investigation. Conceptual analysis, besides being a creative and systematic method for exploring and explaining constructs related to a phenomenon, can also involve testing, via empirical evidence, to determine whether the concept would be appropriate in various situations (applicability and utility) (Kahn & Zeidler, 2017:542).

However, at the same time, Kahn and Zeidler (2017:542) also highlight the limitations and standards of rigour when engaging with conceptual analysis. They state:

While conceptual analysis helps educational philosophers to clarify and explicate concept boundaries, it does not portend to develop the definition of a concept ... Conceptual analysis, therefore, will not produce a “one size fits all” definition, but rather, will provide conceptual clarity and illuminate the factors that may have caused a construct to be “fuzzy” in the first place.

For Hirst and Peters (2001:33), the point of conceptual analysis is “to see through words” to determine a better understanding of the similarities and differences of the constitutive elements of that concept. By doing so, we place ourselves, as researchers, in a position to answer questions which could not be answered without conducting such an analysis. However, researchers should be cautious to view conceptual analysis as finding the use of the words in a self-contained manner.

Hirst and Peters (2001:33) state:

We have to study carefully their relation to other words and their use in different types of sentences. An understanding of their use in sentences does not come just by the study of grammar; it is also necessary to understand the different sorts of purposes that lie behind the use of sentences. And this requires reflection on the different purposes, both linguistic and non-linguistic, that human beings share in their social life.

According to Maggetti et al. (2015), concepts are created by either observing a large class of events, such as observing teachers in their classroom, or cases, such as education. Concepts could also be developed or further clarified by digging deeper into the intuitions of researchers trying to understand an episode or event, in the case of this study, the concept of practice and its influence on teacher education. Sometimes when a concept is developed, its meaning could best be clarified by investigating or analysing the private and personal experiences of people, rather than from abstraction from theory (Maggetti et al., 2015:2).

Concurring with this view, Kemerling (2005:5) states that if our “thoughts are composed of more basic, word-sized concepts, so these word-sized concepts are generally thought to be composed of even more basic concepts”. Our thoughts thus give meaning to concepts. The classic approach to conceptual analysis, according to Maggetti *et al.* (2015), is to build concepts from the more broader, general view of the concept to the more specific ideas of the concept.

Maggetti *et al.* (2015:3) offer two perspectives on concepts in order to define what concepts are. The first is the nominalist position, which states that concepts are labels that scholars need to communicate. This view is based on semantics, which implies that the meaning of concepts are not linked to empirical evidence but vary on ‘our lens and interpretation’, in other words, our own reality and how we view that reality. The second position or perspective is referred to as the realistic perspective on concepts. Someone who views concepts from a realistic perspective sees concepts not as figments of a researcher’s imagination, but that they develop because of constant dialogue with empirical evidence. Thus for a nominalist, a concept is never right or wrong as it relies on the interpretation of the individual within a specific context, but for a realist, a concept always has to be refined via empirical evidence as it needs to be tested. This is done to determine whether the initial understanding of the concept is flawed or whether it has applicability to a particular event or episode. We thus have two very different perspectives of what concepts are and how best to determine the meaning of concepts: one via intuition and the other through testing, measuring or clarifying its applicability via empirical evidence.

A third perspective, by Goertz (2006, cited in Maggetti *et al.*, 2015:5), is offered as a compromise between the nominalist and realist perspectives. According to Goertz, the proposed view of concepts views concepts as ontological, that is, concepts are –

- theories about the fundamental constitutive elements of a phenomenon;
- causal, that is, they have a causal function in explanation; and
- are joined to theories and explanation, as opposed to leaving them in semantic limbo or interpretation.

Included in this perspective is also the aforementioned realistic view. Therefore, because of this view of concepts being realistic, ontological and causal, Maggetti *et al.* (2015:5) states that this view has become increasingly accessible for both qualitative and quantitative researchers. This view, according to Maggetti *et al.* (2015), allows concepts not only to be part of a phenomenon (ontological), and linked to explanations and theories (causal), but also allows concepts to be measured or tested via empirical evidence (realistic). This gives credence to the notion that concept formation comes before measurement, which is also important as the function of concepts, according to Maggetti *et al.*, (2015:5), is that “we can ‘do’ our job of looking at evidence and reducing bias in our measurement”.

Kahn and Zeidler (2017) state that when we need to clarify concepts, conceptual analysis can be regarded as the most appropriate approach of philosophical inquiry. The aim is to produce an explicit meaning of the concept “delineating its boundaries, referents and relationships” (Kahn and Zeidler (2017:539). Moreover, conceptual analysis can be utilised as a highly useful methodology when used as a precursor or adjunct to empirical studies.

My intention, in this research, was thus to view concepts in a realistic, ontological and causal way. Using this perspective about concepts, my intention was to discuss the concept of practice, as a phenomenon, and to find ‘constitutive elements or concepts’ relating to practice, which I could use to link to theories or explanations about practice within events or episodes such as teacher education programmes. In addition, viewing concepts from a realistic perspective, by utilising empirical evidence, the aim of this research was to test the applicability of these constitutive elements of practice and interpret their efficacy within a practice-based teacher professional learning programme.

3.2.2 Phenomenology as a research methodology or paradigm

As this research made use of an interpretivist or social constructivist paradigm, the research design proposed for this study was a qualitative one. According to Merriam (2009:13), “Qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world.” Another brief definition of a qualitative research design is that it “involves collecting and/or working with text, images or sounds” and “it allows for the inclusion of many different kinds of data collection and analysis techniques, as well as the diversity of theoretical and epistemological frameworks that are associated with qualitative research” (Guest et al., 2013:3). The two descriptions, offered by Merriam (2009) and Guest et al. (2013) succinctly describe how I intended to go about conducting this research. The present research was about understanding the meanings that people associate with their actions or about their involvement in a phenomenon, and how they interpret it. In order for me to interpret and understand, I had to delve into their understanding with a social constructivist or interpretivist world view, using the data created via semi-structured interviews, and engaging with different kinds of data analysis strategies.

Babbie and Mouton (1998:271) state that the main interest of any qualitative researcher is to describe the actions of the research participants in detail and wanting to understand the actions of these participants in terms of their own beliefs, histories and contexts. My intention was to create rich, thick descriptions about the phenomenon being studied, couched within the language of the participants. This language was then used to create categories to understand the phenomenon under study further.

This research was conducted from an inductive perspective, as I focused on understanding and interpreting the multiple realities or perspectives of the practice-based approach to teacher professional learning as opposed to an objective understanding of that reality. The idea was to explore the different subjective meanings from the data and thus to try to understand what influence the research participants (teachers) might have on experiencing the practice-based approach to teacher professional learning. According to Babbie and Mouton (1998:273), when the qualitative researcher employs an inductive approach to his or her research, the qualitative researcher immerses him- or herself in the natural setting, describing events as accurately as possible.

Thus, the qualitative researcher does not begin from any existing theory or hypothesis, but rather uses the narratives of the participants to describe events that are occurring or have occurred slowly and accurately, creating a rich thick description of the phenomenon being study. According to Creswell (2003), qualitative researchers build their knowledge via patterns and categories from the bottom up. The inductive process thus entails working back and forth with the data, a type of iterative process, until a set of categories is manifested, which creates patterns to try and understand the phenomenon being studied.

As this research intended to engage with individuals and their experiences of a specific phenomenon, namely the practiced-based approach to teacher professional learning, the essence of the human experience or lived experience, as pertaining to the practice of the participants in this study, was crucial. As the researcher, I proposed phenomenology as the strategy of inquiry or research lens for this study. According to Creswell (2003:15):

Understanding the “lived experiences” marks phenomenology as a philosophy as well as a method, and the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meaning.

Guest et al. (2013:8) state that the defining features of using phenomenology as a research lens is that it focuses on individuals’ experiences, beliefs and perceptions about a phenomenon. In order to focus and understand these experiences, beliefs and perceptions about a phenomenon, phenomenology uses text as a proxy for that human experience. By using the data created from semi-structured interviews with the research participants in this study, I attempted to interpret and understand the experiences, beliefs and perceptions of the research participants as a practice-based approach to study teachers attending a professional learning programme, what it meant for their practice and how it had influenced their teaching.

According to Babbie and Mouton (1998:271), to enact phenomenology as a research strategy of inquiry, the qualitative researcher literally has to put him- or herself in the shoes of the research participants in trying to understand and interpret their actions, decisions, behaviours, practices and rituals. Within phenomenology, the challenge for the qualitative researcher is to understand groups of individuals who use different languages, have varying world views and beliefs, and who have diverse cultural practices and customs. The emphasis is on focusing on the insider's perspective or, what is referred to in anthropological literature as the "emic" perspective, a perspective that focuses on the distinctive and personal settings of the research participant (Babbie & Mouton, 1998:271).

Eberle (2014:18) states that the phenomenological analysis begins even before the empirical data is created, meaning that as a researcher, one needs to make explicit one's own lived experiences of the phenomenon being studied. This is done by informing the reader of how the researcher perceives the phenomenon, detailing the context of the phenomenon, and how the researcher makes sense of the phenomenon. The subjective knowledge and lived experience of the researcher creates the context or platform to interpret and understand the subjective knowledge and lived experience of the research participants. Within this thesis, I describe the programme in which the phenomenon of a practice-based approach to teacher professional learning occurred. This served as the context of trying to understand and interpret the lived experiences of the research participants who were part of the aforementioned phenomenon (the practice-based teacher professional learning programme). This also served as a platform for strengthening the understanding of the theory–practice gap within teacher education programmes, using practice as a conceptual and theoretical framework.

Despite the thick rich descriptions of any lived experience that can be created via the phenomenological lens, Eberle (2014:20–22) cautions us about the limits of what phenomenology, as a research paradigm, can do. We must be aware that data created by the phenomenological research lens is merely a reduction of the interview data and its transcripts. The recorded lived experience is about the here and now, which could change once the researcher leaves the field. It is an experienced entrenched within the recorded data and one must be aware that the recorded data could have an effect on or change the original experience. Using the phenomenological approach also requires great sensitivity and respect towards the participants and their lived experiences; thus, when recording the participants experiences by expressing it in language, great skill and care should be taken when translating experiences into linguistic descriptions.

3.3 Research methods used to acquire or create data

Qualitative procedures adopt a different approach to quantitative procedures when creating data, because the qualitative approach to scholarly inquiry adopts different philosophical assumptions, strategies of inquiry, methods of data collection, analysis and interpretation, as opposed to the quantitative approach of scholarly inquiry (Creswell, 2003).

As this research used an interpretivist qualitative design, applying a phenomenological lens as a strategy of inquiry, the methods used to create and analyse the data had to be appropriate enough to interpret and understand the phenomenon being studied, namely the practice-based approach to teacher professional learning. With this in mind, the most appropriate method that I could find to create my data was qualitative interviewing. Babbie and Mouton (1998:289) state that:

A qualitative interview is an interaction between an interviewer and a respondent in which the interviewer has a general plan of inquiry ... it is essentially a conversation in which the interviewer establishes general direction for the conversation and pursues specific topics raised by the respondent; and the respondent does most of the talking.

The interview schedule developed was designed to elicit responses relating to how the research participants experienced the phenomenon of the practice-based approach to teacher professional learning. The questions were phrased to gain an in-depth understanding of how they interpreted the phenomenon. Using these narratives, I was able to understand how this phenomenon of experiencing a practice-based approach to teacher professional learning influenced their practice and the influence it had on closing the theory–practice gap whilst attending this teacher education programme.

Interviewing, according to Steiner Kvale (1996, cited in Babbie & Mouton, 1998), is an integral part of creating data in a qualitative research process and outlines seven stages in a complete interviewing process (Babbie & Mouton, 1998:290):

- thematising: clarifying the purpose of the interview;
- designing: making explicit the process to accomplish the purpose;
- interviewing: conducting the interview;
- transcribing: creating the interview text;
- analysing: interpreting the transcript in relation to the study;
- verifying: checking validity and reliability; and
- reporting: relaying your findings to others.

This was essentially the path that I took to create my data and eventually report my findings. However, Babbie and Mouton (1998) caution that trying to construct the meaning of a process or phenomenon from others is a slow and delicate process. Hence, this researcher exercised patience and made explicit his intentions and procedures during this process.

Considering the abovementioned features of an interviewing process, I conducted face-to-face semi-structured interviews with each of my research participants. The reason for the face-to-face interviews was that I wanted to observe all the subtle nuances, such as body language, facial expressions, and so forth. The practice-based approach to teacher professional learning was linked to how teachers adapted the theory, learnt during the contact sessions, to their teaching or practice, within their own context. Thus, to understand their lived experiences in their own context, I interviewed them personally, despite the fact that I had to travel vast distances to do so. This, I feel, gave me a greater sense of respect and understanding of their lived experiences of their teaching practice, after being part of a phenomenon, called the 'practice-based approach to teacher professional learning'.

According to Myres (2013), qualitative researchers use semi-structured interviews if they are interested in understanding the knowledge and insights of the respondents; when you need to match the feelings and knowledge of the respondents to the content and flow of the phenomenon being studied, and finally if and when the subject matter is deeply personal, sensitive and confidential.

According to Myres(2013), the features of semi-structured interviewing are:

- such interviews are more flexible than structured interviews;
- questions can be asked out of sequence;
- the respondent has the freedom to answer questions in his or her own way, be it language preference or anything else;
- allows for new understandings and interpretations to arise spontaneously; and
- the interviewer can probe responses thus allowing for depth of understanding.

Using a semi-structured interviewing process allowed me to investigate the phenomenon, but with some rigour, as there were certain aspects of the phenomenon I specifically needed to interpret and understand. Conducting semi-structured interviews gave my research participants the flexibility to express their views, over and above what was asked. Using a semi-structured interview guide granted me control to establish specific things about the phenomenon, and allow for new understandings and interpretations of the phenomenon to manifest itself via the interview discourse.

Using the abovementioned features, an interview schedule was developed and designed containing open-ended questions, specific to the phenomenon being researched. As the researcher, I ensured that no overly complex jargon was used, and the questions were posed in the language of the respondents. The questions were linked to specific concepts or terms regarding their practice, but couched within the theoretical framework of practice, and narrowed down to formulating an understanding and interpretation of the practice-based approach to teacher professional learning. Questions linked to How ... Why ... What ... were used and sensitivities around personal information, such as age, sex and gender were avoided.

Using this empirical evidence from the interviews, the researcher intended to provide evidence in support of the conceptual arguments around practice and developing insights into the practice-based approach to teacher professional learning – insights which could make contributions to the policies associated with teacher professional learning in the SA educational context.

3.4 Methods used to analyse data

McMillan and Schumacher (2006:364) claim that qualitative data analysis is primarily an inductive process of organising data into categories, and identifying patterns or relationships amongst categories. Although analytical styles may vary, there is no universal process for qualitative data analysis. Once the data is analysed, the findings are generally presented as narratives and the style of the narrative varies according to the strategy of inquiry or research paradigm. And since I was utilising a phenomenological lens for this research, Creswell (2009:184) suggests that with this paradigm in mind, phenomenological research involves the analysis of statements, generation of meaning units, and the creation of an essence description.

McMillan & Schumacher (2006) state that there are no set standard procedures for data analysis or keeping track of the analytical strategies, making sense of the data can be challenging. McMillan and Schumacher (2006:364) recommend that, in order to overcome this challenge, researchers need to be mindful of practicing intellectual rigour and tolerance towards the tentativeness of interpreting the data, until the entire process has been completed. Creswell (2009:184) describes qualitative data analysis as involving continuous reflection about the data, asking analytical questions and writing memos – it actually starts whilst collecting or creating the data.

3.4.1 How the data was recorded

To create the data for this thesis, I used semi-structured interviews, as stated above. As I conducted the interviews myself, all protocols, such as communicating with the interviewees to arrange the time, date and place, up until thanking the interviewees, were observed so that the interview could be conducted in a professional and courteous manner, and not forcing my presence onto them unexpectedly. The intention was to use a voice recorder to record the interviewees' responses but I was also be mindful of taking notes and recording any subtle nuances, such as facial expressions or body language. The notes also served as a backup in case there was any fault with the audio equipment whilst conducting the interview. The recorded data was transcribed by myself, creating the data for analysis.

3.4.2 Creating categories

According to Bryman (2008), qualitative analysis is a relatively systematic process of coding, categorising and interpreting data to provide an explanation of a single phenomenon being studied. Bryman (2008:550) contends that coding is the point of departure for most forms of qualitative data analysis. According to McMillan and Schumacher (2006:365), data can be analysed by having pre-determined codes, or codes can be generated whilst the data is being analysed. For this study, I used an analytical style known as the template analysis style. According to McMillan and Schumacher (2006:365), this style logically applies derived sets of codes and categories to the data, from words or phrases in the data, called segments. These initial codes or categories were created from my interview schedule, and were related to my research questions.

Coding is the process of organising data into chunks or segments of texts before categories are created. This is done to create meaning to the information in the data (Creswell, 2009:186). The categories are then created from these codes, to package the meanings. Depending on the amount of data, I either hand-coded the data or used an appropriate computer program, such as ATLAS.ti. However, as these categories also tend to be general and very broad, there was a level of fluidity that could see the codes change.

However, Bryman (2008:553) cautions qualitative researchers against commonly mentioned criticisms of coding. These include the challenge around losing the context of what was said when chunks of data are removed from the whole. Since we code using snippets or parts of the data, or segments, this could result in fragmentation of the data, and a loss in narrative flow. I was therefore mindful of the changes that might occur with each code and subsequent category as the data was analysed and coded into categories.

Once the data was coded into categories, the categories were grouped in various ways to identify meanings, that is, patterns were looked for amongst and where necessary within the categories to understand and interpret the data and answer my research questions. McMillan and Schumacher (2006:373) contend that the ultimate goal of qualitative research is to look for meaning and make general statements amongst categories, by looking at patterns in the data. In searching for patterns amongst the categories, the researcher tries to interpret and understand the research participants' experiences, beliefs and actions whilst being part of a phenomenon called the practice-based approach to teacher professional learning. By searching for patterns across categories and the codes, it is hoped that the data would shed light on the research problem and answer the research questions. These patterns are sought across interviewees' understanding of the phenomenon of which they are part. The researcher then considers the plausibility of the interpretation of the data. McMillan and Schumacher (2006:376) define 'plausibility' as a judgement about the quality of the data within the limitations of the research design.

To increase plausibility of the data, the researcher should focus on the presentation of the data by offering thick, rich descriptions of the phenomenon being studied, making explicit and keeping track of the rigour of the analysis process. Figure 3.1 below illustrates the data analysis process that I utilised.

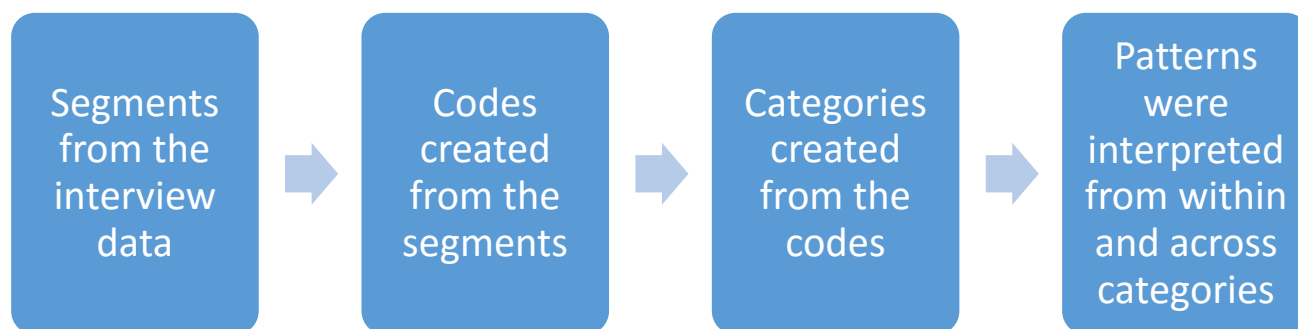


Figure 3.1: The data analysis process

3.4.3 How data is presented

In this thesis, the data is presented in the form of a narrative. McMillan and Schumacher (2006:380) state that there are variations in presenting a narrative of the findings because one needs to consider the audience before choosing an appropriate structure to present the narrative. Since the present narrative was structured to make sense for an audience of academics and possibly editors of academic journals, it includes references, footnotes and outline methodologies. My task was to arrange the findings into a logically sound narrative making the participants' meanings clear to the reader. As I used a phenomenological lens for this research, the narrative had to be framed within a naturalistic or interpretative context, describing what happened and how the experience was lived, as described by the research participants. As the researcher, I intertwined quotations with my own interpretations and understanding, creating a textual account of what happened and how the phenomenon of a practice-based approach to a teacher professional learning programme was experienced. The narrative includes the experiences of the research participants, as well as the researcher's own interpretation and understanding of the phenomenon being studied essentially capturing the essence of the lived experience of the research participants in this study (see chapters 4 and 5 of this thesis).

3.5 Research sample

In this section, I will describe how the research participants were selected for this study, and consider the ethical considerations around selecting the participants.

3.5.1 Selecting the research participants

According to Babbie and Mouton (1998), when using qualitative methods to create data, purposeful sampling is almost always used. Bryman (2008:458) states that, within purposive sampling, the researcher samples on the basis of wishing to interview participants who can answer or provide data relevant to the research problem and research questions. The idea behind purposeful sampling is to find participants who are knowledgeable about the phenomenon under study and who will thus help the researcher best understand and interpret the problem and research questions. Therefore, when purposefully sampling for this study, I considered four aspects to strengthen my sampling procedure and subsequently increase the credibility of my sample and subsequent study. These four aspects were:

- the setting: where the phenomenon took place;
- actors: who were involved in experiencing the phenomenon;
- the event: the phenomenon being researched; and
- the process: the experience of the phenomenon by the actors within the setting.

McMillan and Schumacher (2006:319) claim that the logic and flow of purposeful sampling is that it allows the researcher to study a few participants in depth to yield multi-layered insights about what is being researched. Creswell (2009) notes that in qualitative research, research participants are purposefully selected to address and understand the research questions. This may not necessarily be a large sample as the focus is on obtaining rich data to support an understanding of the phenomenon being studied. McMillan and Schumacher (2006:322) advise researchers that the logic of the sample size is related to the purpose, the research problem, the data collection strategies and the availability of the research participants. Researchers must always be mindful that in any qualitative inquiry, the most important issues are around collecting rich information and using appropriate analysing techniques, which would generate rich thick descriptions of the phenomenon being studied. If this is achieved, sample size is secondary issue. My focus with this study was thus to determine an in-depth understanding of the teachers who experienced being on a practice based teacher professional learning programme as opposed to “how many” of the teachers. Their experiences were used to support my conceptual arguments around practice and its influence on practice-based teacher professional learning programmes.

As the purpose of this research was focused on a specific phenomenon, and taking into account the four aspects of sampling mentioned in the previous paragraph, my population comprised a group of teachers who experienced, first-hand, the phenomenon of being part of a practice-based teacher professional learning programme. From this population, purposeful sampling was utilised, as I sought 'information-rich' participants to provide knowledgeable and informative evidence of the phenomenon under investigation, to support my conceptual analysis and arguments about the influence elements of practice could have on the efficacy of a teacher education programme. As the sample was selected from individuals located or involved in a particular event, based on criteria related to and most suited for this study, site selection seemed the most appropriate type of purposeful sampling to be employed in this study.

For this study, I purposefully selected the teachers who attended the two AHEC Mathematics courses from three rural districts in the Western Cape, namely the West Coast, the Cape Winelands and the Overberg education districts. In my opinion, they were best suited to address some of my research sub questions. They were all high school, secondary or primary school Mathematics teachers, and were recruited by the appropriate education district officials to be part of the AHEC Mathematics teacher professional learning programmes. The education district officials drew up the criteria to recruit and select the teachers to attend the AHEC programme.

The only request SUNCEP made was to ask that district officials ensure that the teachers attending the Mathematics courses were teaching Mathematics in the appropriate grade at the time, that is, a teacher attending the Grade 7 to 9 course had to be teaching Mathematics in Grades 7 and/or 8 and/or 9, with the same requirement for the Grade 10 to 12 teachers. There were 53 teachers who attended the Grade 7 to 9 Mathematics course and 23 teachers who attended the Grade 10 to 12 Mathematics course. Collectively, my population size was thus 76 teachers.

I began sending emails to all 76 participants in August 2016, followed by a personal WhatsApp requesting them to be part of my study. The responses were very slow, starting with one and eventually landing up with 12 participants, after several follow-up emails, WhatsApp messages and personal calls within a four-month period. Out of the 12, one participant moved to another province, another I could not get hold of, despite initially agreeing, and another had a death in the family and eventually did not get back to me. In the end, my sample consisted of nine participants out of a population of 76. Table 3.1 below provides a profile of each participant in my research.

TEACHER	GENDER	DISTRICT	COURSE	OTHER COURSES	SCHOOL	QUALIFICATIONS	TEACHING EXPERIENCE	DISTANCE TRAVELLED TO TRAINING CENTRE AT STELLENBOSCH UNIVERSITY
6	M	Cape Winelands	Mathematics SP	Natural Science SP	Siyafuneka Primary (Worcester)	BSc (Psychology) + Diploma In Education (Zimbabwe)	16 years	82.6 km (hr. 6 min)
3	M	Cape Winelands	Mathematics SP		WCED Mathematics GET Curriculum Advisor (Winelands Education District)	BA Degree + HDE	24 years	148 km (1 hr 47 min)
1	F	Cape Winelands	FET Mathematics	Mathematics SP	Langeberg Sen Sec (Robertson)	3-Year Teacher's Diploma + ACE Course In Mathematics	20 years	129 km (1 hr 34 min)
8	M	Cape Winelands	Mathematics SP		Twee Jonge Gezellen VGK Primary (Tulbagh)	Degree + HDE + ACE in Mathematics	12 years	91.7 km (1 hr 8 min)
4	M	Cape Winelands	Mathematics SP	FET Physical Science	Ashton Public Combined (Ashton)	BEd in FET Maths and Physics	4 years	146 km (1 hr 47 min)
9	M	Cape Winelands	Mathematics SP		St Vincent RC Primary (Stellenbosch)	BEd (Hons) + Further Diploma in Education	28 years	36.4 km (47 min)
2	M	West Coast	Mathematics SP		Maskam Primary (Vanrhynsdorp)	3-Year Teachers' Diploma + ACE course in Mathematics	26 years	298 km (3 hr 7 min)

7	F	West Coast	FET Mathematics		Dirkie Uys High School (Moorreesburg)	BSc degree + HDE + Further Diploma in Education	37 years	97 km (1 h 11 min)
5	M	Cape Winelands	FET Mathematics		Esselenpark High (Worcester)	4-Year Teaching Diploma	22 years	82.6 km (1 hr 6 min)

Table 3.1 Profile of teachers who were participants in the present study.

Table 3.1 shows the varied teaching experience of the teachers in this study, which ranged from 4 to 37 years of teaching experience. This tended to dispel the myth around the more experienced teacher not requiring professional learning as this teacher is considered ‘developed’. The average teaching experience of the research participants was thus 21 years. To give a sense of the rural context of the schools from which these teachers came, I included a column indicating the distance and time each teacher took to travel the required distance to Stellenbosch University to attend the course. As the distances travelled were quite vast, the Stellenbosch University residences accommodated the teachers for the duration of the contact sessions (i.e. 3 days at a time) during their school holidays. In the qualifications column, it is shown that all teachers in this study were by definition (see footnote 2), qualified teachers, in other words, they all had a matric (school-leaving certificate) plus four years of initial teacher education at a tertiary institution, such as a college or university. Out of the nine teachers, six had degrees, varying from a science degree (BSc) to an arts degree (BA) to an educational degree (BEd). The rest had a three- or four-year teaching diploma course. Those who have a three-year teaching diploma, have an additional course called the Advanced Certificate in Education (ACE) in Mathematics.

At the time, four teachers were teaching at primary schools⁴ and they attended the Mathematics Grade 7 to 9 training course (Mathematics SP). Interesting to note is that one teacher who attended the Mathematics SP course, also attended a FET Physical Science (Grades 10 to 12) course. He was teaching at a combined school at the time, where he was responsible for Mathematics for Grades 7 to 9 and Physical Science for Grades 10 to 12. This gives one an idea of the teaching load he had to bear, with only four years’ teaching experience. Similarly, in addition to the Mathematics SP course, another teacher attended a Natural Sciences SP course. This teacher taught Mathematics and Natural Sciences to the same grades – namely Grades 7 to 9. At the time of the research, one participant was a curriculum advisor in the Cape Winelands education district.

This curriculum advisor, who was a teacher, attended the course to strengthen his support for the teachers he were advising in his educational district. I was considering removing him as a research participant as he was not teaching at the time, but upon reflection, it was interesting to listen to his interpretation and understanding of how his own practice changed as a consequence of attending the Mathematics SP course. Three of the research participants were teaching at high schools. Two of them taught strictly only Grades 10–12 (FET) and only one taught Grades 10 to 12 and Grades 7–9 as this teacher attended both the FET and SP Mathematics courses.

⁴ In South Africa, primary schools cater for learners attending Grades 1 to 7, and in some cases Grades 8 and 9. High schools cater for learners from Grades 8 to 12. A combined school is where the school caters for learners from Grade 1 to Grade 12.

The AHEC teacher professional learning programme was for teachers from three rural districts of the WCED, namely, the Overberg, the West Coast and the Cape Winelands education districts. Of the nine research participants, two were from the West Coast education district and seven from the Cape Winelands education district. There were no participants from the Overberg education district, despite the fact that invitations to participate in the research were sent to all Mathematics teachers in all three education districts who attended both the SP and FET Mathematics courses.

The data for my research was drawn from semi-structured interviews⁵ with teachers (Table 3.1) who attended the Mathematics teacher professional learning programme, and who agreed to participate in my study.

These Mathematics teachers were from all three rural districts, teaching Grades 8 to 12. There were two Mathematics teacher-learning programmes: one focusing on teachers who taught Mathematics Grades 7 to 9, and the other for teachers who taught Mathematics Grades 10 to 12. Initially, teachers were requested to register for one course, but because some teachers were involved in both phases, some attended both Mathematics courses, i.e. a Mathematics course for the Senior Phase (grades 7 to 9) and a Mathematics course for the Further Education and Training Phase (grades 10 to 12). This was possible as the courses were presented at different times during the training week. In addition to attending a Mathematics course, one teacher attended a Natural Science and another a Physical Science course, as these were the other subjects – in addition to Mathematics – they were teaching at their respective schools at the time.

As both Grade 8 and 9 and Grade 10 to 12 teachers received the same format of the intervention, and because I wanted a large enough population, I decided to recruit participants for this study who attended both Mathematics courses. These teachers had completed the courses in 2015. This meant that by the time interviews were conducted with them in 2016, they would have had a year in which to implement what they had learnt on the course. More specifically, interviewing a year after the intervention provided me, as the researcher, with insights into how the practice-based approach influenced their professional learning and practice as teachers. The teachers' willingness to engage with me and to share their experiences, was enhanced by the fact that I had encountered them and worked with them during previous training courses. Knowing most of them also allowed me easy access to each participant to conduct my interviews and collect the data. This was another factor taken into consideration in my decision to use the participants from the Mathematics courses as opposed to participants on other courses.

⁵ See Addendum D for interview schedule.

3.5.2 Ethical considerations for participants

The process to select the research participants started in August 2016, after I had received ethical clearance from Stellenbosch University to conduct my study. To obtain ethical clearance for this study, I had to submit the documents (listed in section 1.7 and repeated here for ease of reference) to Stellenbosch University's Research Ethics Committee: Human Research (Non-Health).

- my research proposal;
- letter of permission from the WCED granting me the right to interview teachers involved in practice-based teacher professional learning initiatives;
- departmental Ethics Screening Checklist, indicating the level of engagement with my participants;
- teacher participant list;
- letter of permission from the Division for Institutional Research and Planning at Stellenbosch University;
- interview schedule, consisting of a list of possible questions I was going to pose to my participants;
- template of the informed consent form which I would be requesting my participants to read, complete and sign before being interviewed; and
- Research Ethics Committee Application form.

Once I had received ethical clearance from Stellenbosch University's Research Ethics Committee: Human Research (Non-Health), I started to recruit my research participants for this study. After the research participants had been selected, each participant had to complete a consent form, which I requested them to read, complete and sign before interviewing them (see Addendum C for consent form template). Interviews with research participants were only conducted once the consent form had been signed.

3.6 Issues around validity, reliability and bias

McMillan and Schumacher (2006:326) state that the validity of qualitative designs is the degree to which the interpretations have the same meanings for both the participants and the researcher. The researcher and participant thus have an agreement on the interpretations and the understanding of the phenomenon under study. According to Creswell (2009:190), qualitative validity means that the researcher is concerned about the accuracy of the study or whether the findings are accurate from the position of the researcher, the participant or the reader of an account. Qualitative validity is thus a way of checking whether the correct procedures are followed during the research to ensure accuracy and credibility of the process and the associated findings.

To enhance qualitative validity, McMillan and Schumacher (2006:325–326) and Creswell (2009:191–192) suggest a range of strategies that the researcher could use to assess the accuracy of the findings, and to convince readers of said accuracy.

These include:

- mechanically recorded data: using audio equipment, such as a voice recorder, will supply the researcher with an accurate and relatively complete record;
- participant review: the researcher asks the participant to review his or her interview transcript. This is done to ensure the accuracy of the data obtained from the participant;
- member checking: to confirm the participant's meanings and interpretations. This is usually done during the interview process as questions are rephrased and probed to obtain more complete information;
- thick, rich descriptions of the findings: to ensure that the reader is part of the lived experience of the research, making the results more realistic and richer. Bryman (2008:378) states that offering the reader a rich, thick description of the research findings provides the reader with a “database for making judgements about the possible transferability of findings to other milieu”; and
- reporting negative or discrepant data: the researcher has to be well aware of reporting any situation or the participant's view, which contradicts the emerging patterns of meanings or any variants of the emerging patterns in the data, thus making the data plausible.

Qualitative reliability is an indication of the researcher's consistent approach during the research process to ensure the data is reliable and could be used in any duplicate study. To achieve qualitative reliability, Creswell (2009:190), suggests that the researcher deploy the following reliability procedures:

- check that the transcripts of the interviews are error-free. In this way, the integrity of the data will be intact; and
- create a coding protocol by ensuring that all coding procedures are recorded and in doing so keep record of how the definitions and creation of codes are recorded and audited.

However, according to Bryman (2008:377) and Babbie and Mouton (1998:277–278), an alternative criterion exists to evaluate validity and reliability in qualitative research. Golafshani (2003) and Creswell (2009) state that the terms ‘validity’ and ‘reliability’ have always been associated with the quantitative research paradigm, and hence qualitative researchers tend not to use these terms to determine the accuracy and consistency within qualitative research, because of its connotations associated with measurement rigour. Interpretation and understanding cannot be quantified but can be determined using different criteria.

According to Creswell (2009:191), there are alternative terms to be used instead of ‘validity’ and ‘reliability’ within qualitative research to measure the accuracy and consistency of qualitative research. These are terms such as ‘trustworthiness’, ‘authenticity’ and ‘credibility’.

Bryman (2008:377) and Babbie and Mouton (1998:277–278) propose that we view the principles for determining the accuracy and consistency of qualitative research primarily from two criteria: trustworthiness and authenticity. Trustworthiness reflects four aspects, namely:

- credibility: ensuring that the research is enacting or following good research practices and protocols, so that the research itself finds a credible home within the qualitative paradigm;
- transferability: as mentioned above, thick rich descriptions of the phenomenon being studied will ensure that others can make credible judgements of the possible transference of the findings to other similar situations or cases;
- dependability: researchers must adopt an auditing approach by ensuring that complete records of all phases of the research process are documented in a clear, concise manner and are accessible to other researchers; and
- confirmability: the researcher must not have any bias in the process. The researcher should act in good faith and ethically in order not to allow personal values to influence his or her conduct towards the participants.

Authenticity raises issues around the wider influence of the research in the broader research community. Although difficult to ascertain, it is hoped that when the research is presented, the aim of authenticity would be a factor influencing the production of the research product. Criteria that are linked to whether the research conducted is authentic and genuine are (Bryman, 2008:379–380):

- Fairness: are the various meanings of the research participants represented fairly?
- Ontological authenticity: does the research add new understanding and knowledge about the phenomenon being studied within a specific context?
- Educative authenticity: does this research lead to members of the research community understanding the perspectives of the research participants within a specific context better?
- Catalytic authenticity: has the research served as a catalyst for the research participants to change their circumstances?
- Tactical authenticity: has the research led to actions being taken to change the circumstances or improve the situation?

When considering how best to present the accuracy and consistency of a qualitative research study, the researcher will be mindful to look at aspects of qualitative validity or reliability, especially from the perspective of trustworthiness or authenticity.

Within traditional qualitative research, Maxwell (2013:46) claim that researchers are known to bring ideas from their own background, linked to their own identity. This move to incorporate researchers' identity and experiences into their research has been gaining ground with widespread theoretical and philosophical support. However, within the qualitative research paradigm, this has always been treated as bias. The idea is that this should be eliminated from the research to give the process more credibility, alluding to a positivist notion of finding out absolute truths. However, cutting off ideas and informing research from aspects of the researcher's life could cut off major sources of insight, hypothesis and validity checks. Denying the researcher's experiences the opportunity to guide his or her research could impair his or her understanding of the situation or phenomenon under study. Maxwell (2013:46) reinforces this view by stating, "Any view is a view from some perspective", and is therefore shaped by the location (social and theoretical) and lens of the observer."

Using the above argument, the current research was started by reflecting on my own thoughts on practice. As manager of the programme, I played a major role in the design and delivery of the programme and thus and by default, had a vested interest in the professional learning of the teachers attending the programme. Indeed, it may be construed as bias, but I had my own opinions and thoughts about what I needed to focus on to develop my own conceptual or theoretical framework; thus, developing my own understanding of the concept. However, I was cautious, whilst conducting my conceptual analysis to take heed of Maxwell's (2013) guidelines to not just provide a summary of the literature on practice, but to explore meanings of ideas about practice and its possible uses or links to teacher education programmes.

3.7 Limitations of the study

Golafshani (2003:600) states that qualitative researchers embrace their role and involvement in research and seek illumination, understanding and extrapolation to similar situations, whereas quantitative researchers seek causal determination, prediction and generalisation of findings.

With this in mind, 'generalisability' is a term not used often in qualitative research, simply because of the small sample sizes used in qualitative research. According to Creswell (2003:193), the intent of qualitative research is not to generalise to individuals, sites or contexts. The value of this type of research is in its ability to describe, interpret and understand a problem in a specific context. Particularity, as opposed to generalisability, is the order of the day. The researcher will thus be aware not to make over-generalizations about the research to individuals, sites or contexts. The aim of this thesis is to provide the reader with a report of this study and to make generalisations to policy related to teacher professional learning and not to populations as a whole.

3.8 Chapter summary

In this chapter, I discussed my research design, methodology and methods of data analysis, which I used to answer the research questions. This chapter made explicit my reasons for using an interpretivist qualitative research design, implementing phenomenology and conceptual analysis as the research paradigms or strategies of inquiry. Methods used to create the data, analyse the data and present the data were justified by myself. Suggestions on how to ensure the integrity of this study, thereby making this research credible, were discussed when addressing issues around validity and reliability or trustworthiness and authenticity of the data. This chapter concluded with a discussion on the appropriate ethical aspects of this research, the biases inherent in it and the limitations of this study.

In the next chapter, I present the findings of my data that were obtained via my interaction with the teachers who participated in a programme utilising the practice-based approach to teacher professional learning.

Chapter 4: Findings from the data

4.1 Introduction

In this chapter, I will present the findings of the data, extracted from semi-structured interviews held with teachers who were participants of a practice-based teacher professional learning programme, the Area Health Education Centre (AHEC) programme. These findings are presented in relation to my main research question, which was:

What influence does the concept of practice have on bridging the divide between theory and practice on a practice-based teacher professional learning programme within Stellenbosch University?

In turn, the data also addressed the following sub-questions:

- What are the philosophical and epistemological dimensions of practice theory?
- What influence do these philosophical and epistemological dimensions of practice theory have on conceptualising the components of a practice-based model for teacher professional learning programme?
- From the literature, what are the components of a practice-based model for effective teacher professional learning programmes?
- What are the current successes and challenges of teacher professional learning programmes utilising a practice-based approach within Stellenbosch University?

The fifth sub-question, namely: How can these challenges and successes inform teacher professional learning policies within an SA context? – will be addressed and discussed, when I discuss the implications of this study for policy in Chapter 6.

To place the findings in context, I commence this chapter by providing an overview of SUNCEP. Then I offer a description of the practice-based approach to teacher professional learning adopted by SUNCEP for its teacher education programmes. I also provide a description of the components used in this practice-based approach, and why SUNCEP considers these elements of its practice-based approach as crucial parts of its practice-based teacher professional learning programme. Moreover, I provide a description of the actual programme, known as the 'AHEC teacher professional learning programme', which I utilised in my research, and the way the elements or components of the SUNCEP practice-based teacher professional learning approach are used to inform the design and delivery of the AHEC teacher professional learning programme. I also provide information on who participated in the programme, how I selected my research participants and how I constructed the data. Finally, I present the findings of my data, using the interview data I collected from each participant in the present study.

4.2 The Stellenbosch University Centre for Pedagogy (SUNCEP)

SUNCEP was established in 2013. It comprised the amalgamation of two centres: the Institute for Mathematics and Science Teaching at Stellenbosch University (IMSTUS) and the Centre for Leadership and Management at Stellenbosch University (CELEMUS). Located within the Faculty of Education at Stellenbosch University (SU), the overall objectives of SUNCEP are –

- contributing to the development of educational leadership;
- teacher professional learning;
- improving student performance; and
- preparing learners for university access by making available the expertise of SU staff in formal and non-formal education programmes.

The specific aims of SUNCEP (2013:1) are:

- the expansion of knowledge and understanding of the professional learning of teachers and learners through the exploration, analysis and critical evaluation of theories, approaches and practices in the field;
- increasing the professional capacity and practice of teachers geared towards improved learner performance;
- the improvement of teacher leadership to enhance effective coordination of learning activities and general improvement of learner performance;
- optimal cooperation with provincial, national and international partners to achieve the aims set out above;
- the implementation of practice-based enquiry/research projects and the development of case studies reflecting such projects; and
- the preparation of learners for university access through university preparation programme.

In order to achieve the abovementioned specific aims, SUNCEP has three components, namely teacher professional learning (TPL), school-based interventions (SBIs) and university preparation programmes (UPPs). Each component has its own designated manager and I manage the TPL component. The TPL component has as its focus capacity enhancement activities for educational leaders at primary, high and combined schools (see footnote 4) and Mathematics and Science teachers from Grades 4 to 12. The capacity enhancement activities are offered via formal practice-based continuous professional learning (CPL) courses or programmes.

These are either could be full qualifications, such as the Advanced Diploma in Education (ADE), or accredited, aligned and endorsed short courses – ‘accredited’ implying that they are credit-bearing, ‘aligned’ meaning that they are modules within a full qualification, such as the ADE, and ‘endorsed’⁶ by the South African Council of Educators (SACE).

Since SUNCEP’s inception in 2013, more than 1000 teachers have attended short courses in Mathematics, Natural, Life and Physical Sciences, as well as School Management and Leadership, while more than 350 school managers from the Western and Northern Cape had enrolled for a two-year Advanced Certificate in Education (ACE) in School Management and Leadership courses. In order to achieve its overall objectives, it is crucial that SUNCEP establish trusting and productive relationships with internal entities of SU, such as community interaction and telematics services, as well as external entities, such as the various provincial departments of educations, private funders and schools.

Figure 4.1 below presents an organogram of SUNCEP, indicating the management structures and its components. The external and internal entities with whom SUNCEP could possibly engage are along the left and right sides of the organogram respectively.

⁶ The SACE certificate is technically a licence to teach, which all teachers in South Africa must have. All teachers must earn 150 professional development points, within a three-year cycle, to keep their teaching licence. These development points are earned by attending SACE-endorsed courses carrying a certain number of professional development points.

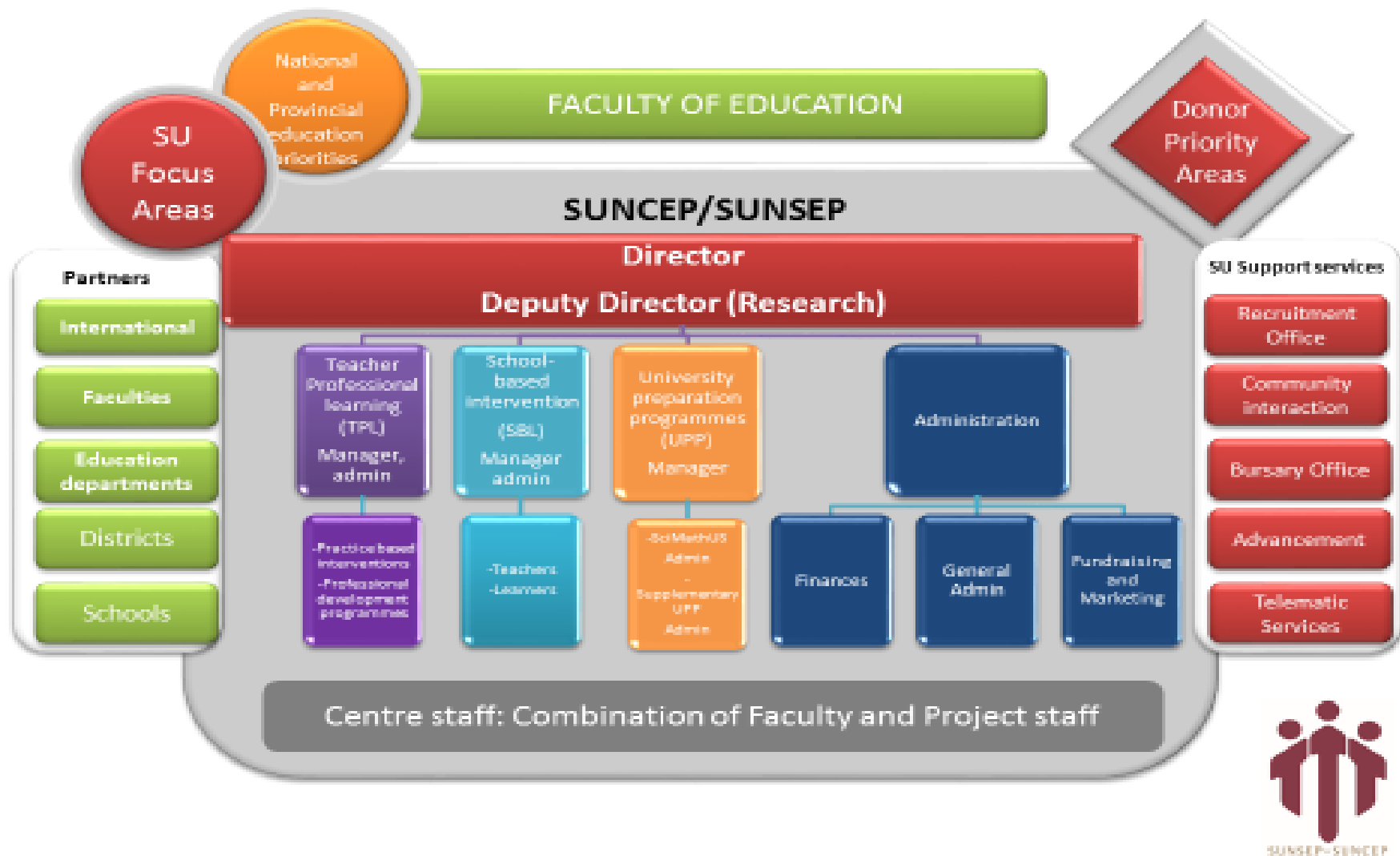


Figure 4.1: SUNCEP organogram

4.3 Philosophical and epistemological dimensions of practice theory: SUNCEP approach to teacher education

As discussed in sections 2.3 and 2.4 of this thesis, practice-based professional learning is increasingly being offered as an alternative approach to teacher professional development as a means to address impediments linked to teacher training courses or programmes. These impediments include concerns around teacher education courses being overly theory-laden, not being relevant to the context within which teachers work, establishing no clear link between theory and practice, and facilitation being mostly in the conventional transmission-mode of training (Corradi et al., 2010). Critical reflection on SUNCEP's own practice by facilitators and component heads or managers has led SUNCEP facilitators and component heads to conduct an in-depth survey of the literature relating to practice-based teacher professional learning and the role of practice theory in it. In line with one of the aims of SUNCEP, it was determined to address the aforementioned impediments and move away from teacher education as a once-off finite activity, endowed only by theory with no reference to implementation or practice, to one that incorporates life-long learning based on practice theory.

Through an in-depth study on literature, SUNCEP explored, analysed and critically evaluated theories, approaches and practices related to professional learning, teacher education and practice. This led SUNCEP to adopt a very broad philosophical positioning of learning being an embodied, continuous and lifelong process and focusing the professional learning of teachers within an epistemological framework linked to knowledge acquisition as a human activity related practice. This philosophical and epistemological positioning led SUNCEP to shift towards a practice-based approach to teacher professional learning, using practice theory as a theoretical framework. This reflection was initiated by data on learner performance, such as the Grade 12 ANAs results and the Grade 4 to 6 ANAs. Various SA reports, inter alia the National Education Evaluation Development Unit (NEEDU, 2012) report, and "South Africa's education crisis: The quality of education in South Africa 1994–2011" (Spaull, 2013) were also studied.

The data, as presented in Tables 2.1 and 2.2, indicate that there was very little or no improvement in learner results after the SA government had spent billions of rands on teacher professional development after 1994. Now one could argue that there are a myriad of factors influencing this decline, but the reports by NEEDU (2012) and Spaul (2013) offer some insights into this decline or stagnation. In his report, Spaul (2013) states that a large percentage of SA teachers have low content knowledge, brought about by inadequate teacher training before 1994, and the ineffectiveness of in-service teacher training initiatives. The NEEDU (2012) report, although acknowledging the success of some teacher education programmes, declares its dissatisfaction around the quality of pre-service and in-service teacher education, stating that at the time of their research, there was still a disjuncture between the skills needed for teaching (practice) and the content knowledge required (theory) for teachers. Afternoon workshops and cluster sessions, used to capacitate teachers, were proving ineffective, as they were once-off and finite modes of training, as opposed to continuous and supportive modes of training.

Thus after spending billions of rands on teacher professional development, the results of the 2013 to 2016 NSC examinations and 2012 to 2014 results for the ANAs (see Tables 2.1 and 2.2) are not showing a return on government's investment in teacher professional development, namely improved learner performance at all levels of schooling. In a recommendation, the NEEDU (2012) report states that much needs to be done to explore bridging the gap between theory (content knowledge) and practice (pedagogy) and explore alternative modes of teacher professional development, to bridge this theory–practice gap. According to Webster-Wright (2009), professional development is treated as a finite process with a definite starting and ending point, it is episodic in nature, didactic in manner and devoid of context. This implies that it is separated from the work and lived experience of the teacher, subsequently increasing the divide between theory and practice of the teacher. A recommendation to bridge the gap between theory and practice, as suggested by Webster-Wright (2009), is to view professional development as ongoing and situated, and reframing professional development as CPL.

As a result of these reports, the teacher training objective of SUNCEP has therefore been to ensure that in-service teacher training shifts from learning being episodic and finite in nature, to one that could promote lifelong learning (Webster-Wright, 2009). Literature studied around teacher professional development and practice theory, showed that researchers Ball (2000), Ball and Cohen (1999), Boud and Rooney (2011), Raelin (2007) and Webster-Wright (2009) recommend an approach to teacher education in which teachers become serious learners in and around their practice, rather than superficially implementing strategies and activities learnt at workshops that are episodic and finite in nature.

The epistemological approach of teachers to become serious learners in and around their practice, resonated strongly with SUNCEP, and the notion of making training a lifelong experience, embedded in elements of practice theory, has led SUNCEP to adopt an approach to teacher training focusing on the practice of the teacher, and incorporating the strengthening of teachers' pedagogical content knowledge. SUNCEP (SUNCEP, 2018) is of the opinion that a focus on teachers' practice would allow them to become continuous or lifelong learners and thus have the ability to change their practices from one context to the next, by continually learning to adapt to their context. It is one thing to have high levels of pedagogical content knowledge, but if you cannot adapt your practice to a particular context, then teaching becomes routine and procedural.

4.4 Influence of philosophical and epistemological dimensions of practice theory

The next step for SUNCEP was to begin to conceptualise its philosophical and epistemological positioning of entrenching teacher education programmes within a practice-based approach, using practice theory as a conceptual and theoretical framework. At the time of this research, SUNCEP was busy designing and implementing teacher professional learning initiatives in Mathematics, Science and Educational Leadership and Management. These professional learning initiatives, embedded in practice, consist of contact or face-to-face training sessions, in which the teachers are expected to learn content knowledge (theory) and pedagogy (practice). After learning new theory and pedagogy, teachers are supported via mentoring, either on site and/or in a cluster, to improve their teaching practice. These training initiatives are designed to increase the pedagogical content knowledge of teachers to bridge the gap between theory (content) and practice (teaching/pedagogy), thus assisting teachers to develop their confidence and competence in delivering the curriculum. For SUNCEP, it was and still is about conceptualising and creating opportunities for learning and strengthening existing knowledge, and offering support mechanisms where this knowledge can be transformed for effective teaching and learning. After deliberations and discussions, informed by the literature around practice and professional learning, SUNCEP facilitators and component heads decided on the following as essential components of any SUNCEP practice-based teacher professional learning programme.

4.4.1 Contact sessions

The contact sessions comprise face-to-face tuition sessions held with teachers over a specific period. During these sessions, intense training takes place, which focuses on conceptual development and understanding of the specified content and pedagogy. Expert subject facilitators engage in modelling and discussion around content and pedagogy to highlight differences in teaching in different contexts.

These sessions are also opportunities for peer learning, during which teachers can share ideas on best practice within a safe, collegial and collaborative space. The contact sessions are structured over two consecutive school holiday periods.⁷ The duration of the contact sessions is informed by the volume of content to be covered, which in turn is informed by the topic or the theme of the training. As an example, a training course in Financial Mathematics would consist of a two- to three-day contact session held during the April school holidays, with a similar session held at the next school holiday period, which is normally in June. The reason behind consecutive contact sessions is to ensure that learning is continuous, reflexive and experiential. Support via mentoring would take place between each contact session.

4.4.2 Support via mentoring

Mentoring, for SUNCEP, addresses the supportive nature of learning and thus forms another crucial component of the SUNCEP practice-based teacher professional learning approach. By supporting the teachers in their respective teaching contexts, mentoring addresses the issue mentioned in the NEEDU (2012) report relating to the disjuncture between theory and practice, and it assists teachers in bridging the gap between theory (what they had learnt during the contact sessions) and practice (classroom implementation of the content and pedagogy learnt in the contact or training sessions). After each contact session, highly competent, experienced mentors⁸ will support teachers. A unique aspect of this component of the teacher professional learning approach is the process. Firstly, a group of teachers, who are attending the course, would be assigned to a mentor – normally a maximum of 10 to 15 teachers per mentor. The groups are kept as small as possible for ease of planning and to create a more efficient and effective supportive working group. Secondly, the mentor consults with each course participant in his or her group, prior to the actual mentoring process, to conduct an analysis⁹ of the strengths, weaknesses, opportunities and threats (SWOT) of the teacher's teaching context.

The idea is to create a picture of the current strengths, weaknesses, opportunities and threats that each teacher experiences, allowing for proper support and planning by the mentor, as informed by the SWOT analysis. This SWOT analysis and consultation is done on the last day of the contact session. The agreed-upon support plan, by both mentor and teacher (also called 'mentee'), forms the basis and focus of the one-to-one (individual) on-site mentoring visits, occurring after the first contact session and initial group cluster session.

⁷ The WCED specifies that all teacher-training initiatives should only be held during school holidays and not during official schooling periods

⁸ These were usually retired teachers, with many years of teaching experience. Despite being pressed to retire as per state policy, many felt they still had much to offer teaching. They were also considered subject experts with high levels of pedagogical and content knowledge.

⁹ See Addendum A for SWOT template.

These individual on-site support sessions are intended to overcome the challenges experienced by teachers in their own contexts, in implementing the newly acquired knowledge acquired during the contact session. The aim is to assist teachers to bridge the divide between theory ('what I learnt in the contact session') and practice ('how I teach it in my classroom context'), alluded to in the NEEDU (2012) report. The on-site support takes place between the two contact sessions, and whilst conducting the on-site one-to-one support or mentoring sessions, a cluster session takes place. The aim of the cluster session is to create a collegial and collaborative safe space for teachers to meet and share ideas around best practices for teaching and learning. Mentors use techniques, such as questioning and observations, to track and monitor participants' understanding during the course in order to enhance the learning process through timely and constructive feedback.

After the second contact session and after the on-to-one mentoring visits, a final reflective cluster mentor session would also be conducted to focus on:

- progress on the practice-based assignment;
- sharing and discussing challenges, and finding solutions to teaching and classroom challenges;
- sharing and discussing best practices using the activities for teaching and learning;
- sharing and discussing resources and the access to resources; and
- reflecting on the intervention and the effect it had on their teaching practice and offering insights for improvement regarding the intervention.

Figure 4.2 below outlines the mentoring process.

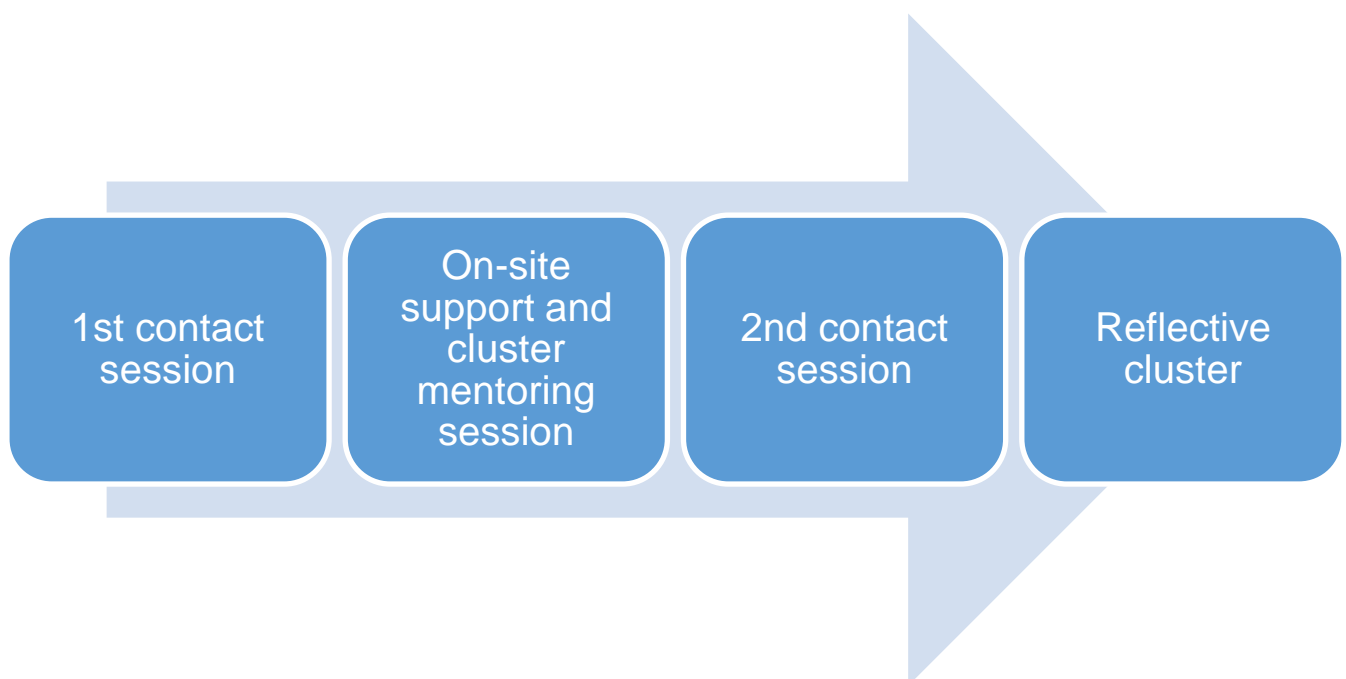


Figure 4.2 SUNCEP mentoring process

4.4.3 Assessment

On any SUNCEP practice-based teacher professional learning programme, teachers are required to complete rigorous practice-based assignments. The aim of the practice-based assignment¹⁰ is to address issues around teachers' ability to integrate theory and practice in a practical way. The assignment aims to get teachers to apply and reflect upon new pedagogical approaches, and the suitability of that pedagogy within their particular context. This entails designing, developing and implementing teaching activities in and around their teaching and reflecting upon the approach. Questions asked in the assignment relate to reflecting upon the teaching activity or activities, such as –

- What was your role, as the teacher, during the activity?
- How did the learners respond to the activity?
- Which aspects worked or did not work during the lesson?

These questions were aimed at contributing to the teacher becoming a reflective practitioner. These teaching activities would generate a portfolio of evidence.

The portfolio of activities and reflective narratives constitute the assignment, which teachers submit for assessment. The reflective aspect of the assignment forms the most crucial part of the assessment as it assists to develop an important skill linked to practice and lifelong learning – that is, the ability to review and refine their teaching practice.

4.4.4 Resources

Apart from the essentially paper-based training workbooks and activities, SUNCEP has introduced an e-learning initiative, of which the function is to strengthen the professional learning activities for teachers. This e-learning initiative aligns itself to the appropriate policies of the national and provincial government and the university. This is the White Paper on e-Education (DoE, 2004:27) which states, “the use of ICT [information and communication technologies] as flexible tools for teaching and learning must be integrated into pre-service and in-service training” and the SU Institutional Intent and Strategy (Stellenbosch University 2013:12) states that it “expands short courses with virtual learning, invests in blended and virtual learning models”. Thus, each teacher is issued with a USB flash disk, loaded with the required module(s), containing all the essential e-learning materials and activities, used in the training. By interacting with the module via word processing devices, such as laptops or tablets, the facilitators model ways of integrating the e-learning technologies into their teaching and learning.

¹⁰ See example of a practice-based assignment in Addendum B.

Figure 4.3 illustrates how the various components of the SUNCEP practice-based teacher professional learning programme are linked to each other:

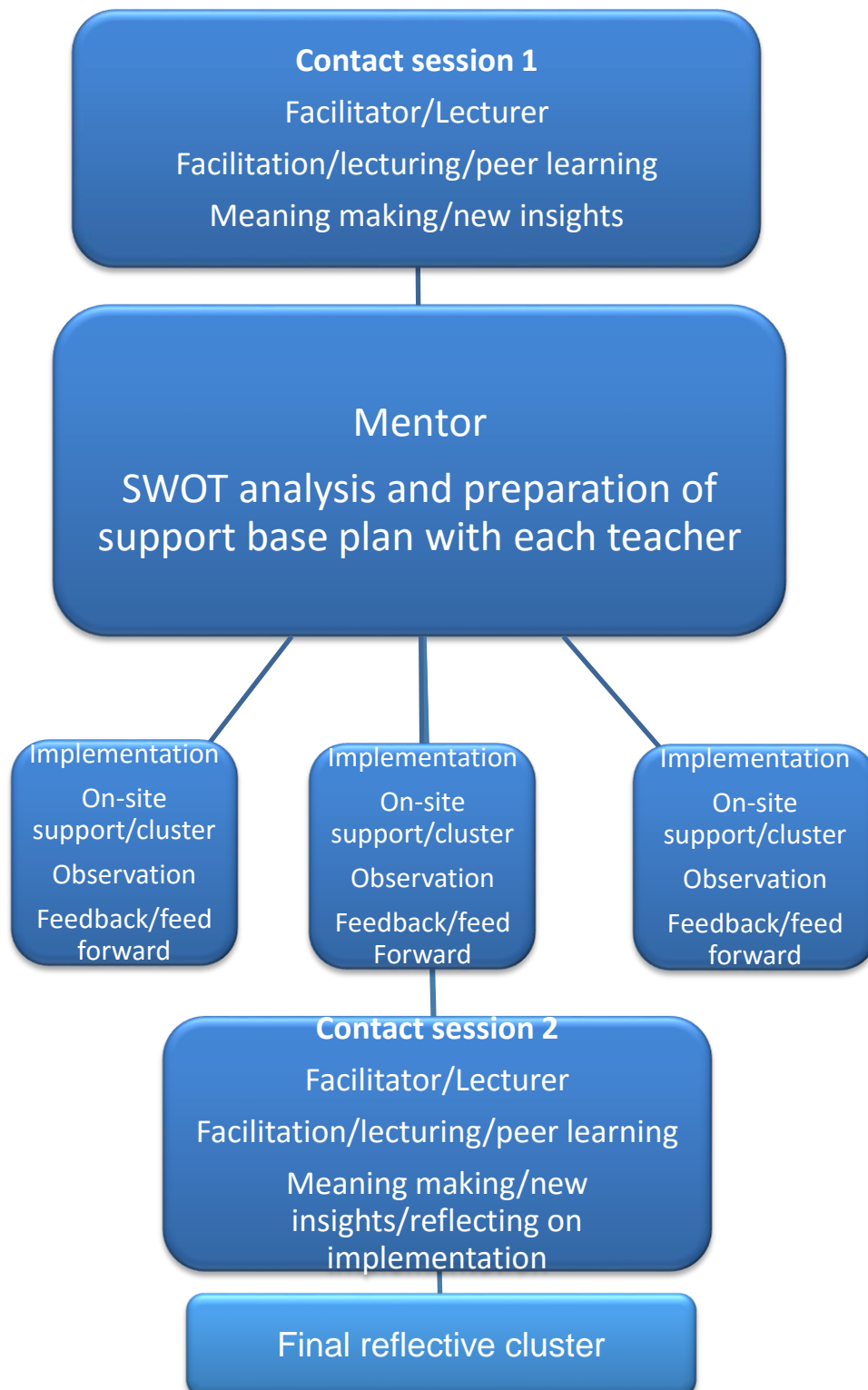


Figure 4.3: Illustration of the components of the practice-based approach to teacher professional learning used by SUNCEP

Table 4.1 below outlines the objectives and outcomes of the SUNCEP practice-based teacher professional learning programme:

	OBJECTIVES	OUTCOMES
Capacity development	To capacitate teachers with the required skills and knowledge to deliver the curriculum confidently and competently	Teachers will have a deep understanding of the content to teach the content confidently and competently.
Transform through best practices and mentorship	To transform teachers' teaching practice by modelling best practices during training and mentoring	Facilitators allow for discussion and debate on how to best implement these practices to improve teaching, and learning in the classroom will model best practices.
Competent educators with a holistic approach to teaching	To capacitate teachers to choose the appropriate teaching strategies so as to improve teaching and learning in the classrooms	Teachers will have the ability to choose the appropriate teaching strategy based on the outcomes of the lesson and the needs and ability of the learners (context).
Educators are positive role models and champions of the programme	To share the acquired knowledge and skills from the programme with their peers becoming ambassadors for the project	Teachers will share skills, knowledge and best practices to promote improved teaching and learning in the classroom.

4.5 Utilising the components of a practice-based model

An application of the SUNCEP practice-based teacher professional learning approach is the AHEC programme. I present some background on the AHEC to place the SUNCEP AHEC teacher professional learning programme in perspective. According to Naidoo (2014), the AHEC concept originated in the United States with the focus on recruiting youth from disadvantaged areas to enter into the health profession, especially youth from rural and underserved areas. The AHEC was thus a learner support programme, based on the premise that youth who enter the health professions, by becoming medical doctors or nurses are more likely to return to serve in their respective communities. Because of a shortage of health care professionals in rural and underserved areas in South Africa, the Stellenbosch University Rural Medical Foundation (SURMEPI) introduced the AHEC model into the Western Cape to address these shortages of health professionals in the Western Cape in the long term (Naidoo, 2014).

To realise the abovementioned strategic objective, the SURMEPI team met with Stellenbosch University and the WCED in 2013 to ascertain the involvement in school projects at the time and to determine the extent to which SURMEPI could fulfil its goal of improving learners' performance to access the health professions at SU, in particular medical education. As the idea was to link up with a stakeholder with similar interests and goals, SUNCEP was approached to assist SURMEPI in implementing an AHEC model in the Western Cape by creating a learner support programme in line with the ideals of AHEC in the United States (Naidoo, 2014), referred to as Stellenbosch University Area Health Education Centre (SU-AHEC).

Because AHEC is geared towards supporting learners from rural and underserved communities, SU-AHEC focused on implementing the AHEC model in three rural education districts of the Western

Cape, namely the Cape Winelands, the West Coast and the Overberg education districts.

In addition to the SU-AHEC learner programme, SURMEPI had funding for a teacher professional learning programme for teachers of learners who attended the learner support programme or schools. In this sense, SU-AHEC presented an opportunity for the parallel delivery of two programmes – a learner programme situated within the SBI component and a teacher education programme situated within the TPL component. The SU-AHEC learner support programme supported learners in Grades 7 to 11 by offering them additional tuition in Mathematics and Science, and the SU-AHEC teacher professional learning programme supported teachers of learners in Grades 7 to 11, and teacher professional learning courses in Life Sciences, Natural Sciences, Physical Sciences and Mathematics. The idea of capacitating the teachers is that the teacher would be able to offer support to learners who did not fulfil the criteria to attend the SU-AHEC learner support schools. Both programmes were designed, developed and delivered under the auspices of SUNCEP. This research is based on the SU-AHEC teacher professional learning programme, known simply as the AHEC teacher professional learning programme, and the following narrative outlines how SUNCEP developed and implemented this teacher professional learning programme.

The AHEC teacher professional learning programme had all the components of the SUNCEP practice-based teacher professional learning programme, as outlined in section 4.4. The AHEC teacher programme began with SUNCEP holding meetings with the appropriate education officials in all three education districts. It was agreed that the education district officials would do the recruiting of teachers for all courses, and SUNCEP would see to the design, development and delivery or implementation of the course(s). The education officials in the West Coast, Overberg and Cape Winelands education district offices drew up the criteria for the recruitment of the teachers for these courses. The only request to the education officials was that teachers attending the courses should be teaching the respective subject and phase, and that it should include as many novice teachers as possible. As the manager for teacher professional learning at SUNCEP, my role was to project manage all the professional learning courses offered on the AHEC programme.

For all courses, there were two contact sessions. The first was held for three days in the June school holidays and the second session for another three days in the September school holidays. In between the contact sessions, mentors were assigned to a group of teachers and to conduct one on-site support visit per teacher and one cluster mentoring session. After the second contact session and after the completion of all on-site support visits and cluster session, a final reflective cluster mentoring session was held after the September contact session. All these activities were to ensure that learning was continuous and supportive, and in accordance with the SUNCEP practice-based approach.

My research participants were selected from the group of teachers who attended the Mathematics courses of the AHEC teacher professional learning programme. There were two Mathematics courses, a Grade 7 to 9 and a Grade 10 to 12 Mathematics course. These courses included contact sessions, mentoring, practice-based assignments and resources for teaching and learning, as for the other courses in Life Sciences, Physical Sciences and Natural Sciences. In addition to my role as project manager for all AHEC teacher-training courses, I was also instrumental in recruiting and training the Mathematics facilitators for both Mathematics courses on the AHEC teacher professional learning programme and was part of the team who wrote the training manual and developed the training materials. Despite having to project manage the other courses, such as the Life Science, Natural Science and Physical Science of the AHEC programme, I was more involved in the Mathematics courses as I have a strong background in Mathematics education. Table 4.2 summarises the information pertaining to both Mathematics courses.

Table 4.2: AHEC Mathematics course information

Name of AHEC Mathematics course	Grade focus	Number of teachers who attended	Duration of the course <i>(The number of hours the teacher would need to attend the contact or face-to-face training sessions, do research and complete and submit the assignments)</i>	Duration of the contact session. <i>(Actual time the teacher spent in the contact training sessions, as guided by policy)</i>	Number of mentoring/on-site support sessions each teacher received between contact sessions <i>(Support at school and in the classroom)</i>	Number of cluster mentoring sessions each teacher had to attend. <i>(Group sessions facilitated by mentor to share best practice)</i>	Number of practice-based assignments submitted by each teacher.
Senior Phase (SP) Mathematics: Teaching Patterns, Functions and Algebra	7 to 9 Mathematics teachers	53	140 hours	35 hours	1	2	1
FET Phase Mathematics: Teaching Trigonometry	10, 11 and 12 Mathematics teachers	23	220 hours	55 hours	1	2	1

As the participants for my research were teachers who participated in the Mathematics courses, I provide here an explanation of the approach used in the Mathematics courses. The instructional theory used in all SUNCEP's Mathematics practice-based teacher professional courses is based on Realistic Mathematics Education (RME), developed by the Freudenthal Institute in the Netherlands during the 1970's (Korthagen & Kessels, 1999). According to Korthagen and Kessels (1999), one of the most impressive recent developments in education involves the teaching of mathematics using the RME approach. It is a complete "break with the traditional approach, which goes from 'theory' (principles, rules, theorems) to 'practice'" (Korthagen & Kessels, 1999:6). Zulkardi (1999:3) states that RME is a teaching and learning theory in mathematics education. A large number of countries all over the world, including England, Germany, Denmark, Spain, Portugal, South Africa, Brazil, the United States, Japan and Malaysia have adopted this theory. Two of Freudenthal's most important views on mathematics were that mathematics must be connected to reality and be relevant to everyday life situations, and secondly, that Mathematics is a human activity. He viewed the learning of Mathematics as organising a subject matter. The matter refers to reality, i.e. places Mathematics in real-life context and organising it accordingly, such that one can start to recognise mathematical patterns in this real-life context. Taking into account that Mathematics is considered a human activity in both RME and constructivism, a variety of contextual problems are integrated into the training materials.

Utilising the basic principles of RME listed above, SUNCEP Mathematics facilitators guided the process of socially active learning during each session. Teachers who attended the AHEC Mathematics practice-based teacher professional learning course(s), did not passively absorb new information, but were actively engaged in creating and modifying existing knowledge and beliefs. Learning was experiential and reflective, in that teachers were allowed to review what they learnt by linking new information to prior knowledge, forming, testing and hypothesising, and revising existing knowledge structures as new information is obtained. My research sample was thus from a group of teachers who were engaged in the abovementioned approach of RME at the time of this research.

4.6 Successes and challenges of a teacher professional learning programme

The raw interview data collected during this study was created by interviewing each research participant using a voice recorder. This was done to provide the researcher with a complete and accurate record of the interview. I then transcribed the raw recorded data to produce the interview transcripts. Once the transcripts had been completed, the researcher asked each research participant to review and check the transcripts of his or her interview. A request from myself was sent, via email, to each research participant, to check and confirm the accuracy of the interview transcript, and to make sure that the transcript reflected what was stated by the participant during the interview. These emails from the research participants will be kept on record to confirm the accuracy of the transcripts, should the need arise.

Once the transcripts had been verified as being accurate and correct by the participants, I then decided to check that all transcripts were error-free. This was done to strengthen the reliability of the research process. After that, the researcher read each of the transcripts at least twice, to obtain a true sense and understanding of their experiences. Whilst reading each transcript, it became apparent that the information rich data, in my opinion, was sufficient to address my research sub-questions, as the participants were expressing definite opinions about their experiences of being part of a practice-based teacher professional learning programme, i.e. the AHEC programme. These opinions could be categorised into the following themes, namely:

- Perceptions and experiences of PDPs
- Need to learn new theory or content and pedagogy
- Becoming a lifelong learner
- Modelling teaching or support and mentoring by experts whilst on the AHEC programme
- Sharing with peers
- Influence of self-reflection on teaching
- Opinions on the practice-based AHEC professional learning programme
- Suggestions for improvements to AHEC programme.

As there were only nine interviews, I decided to code these interviews, using the themes listed above, using an Excel spreadsheet. Care was taken to adhere to utilising the same coding procedure for each transcript and keeping track of each code and new codes as they arose. Information rich narratives linked to each theme, from each interview transcript, were placed into various sheets, representing a theme, in an Excel document, to obtain each teacher's view about each theme. Once all the data had been coded and categorised, I started to analyse each participant's opinions on attending a practice-based teacher professional learning programme. This allowed me to create a thick rich narrative about the teacher's experiences and using this to firstly report on the findings, and then analysing each finding (as reported in Chapter 5) within the context my literature review on practice and professional learning.

According to McMillan and Schumacher (2006) and Creswell (2009) strategies qualitative researchers should employ to enhance validity are:

- using a voice recorder to conduct interviews;
- allowing for participant review, otherwise also known as 'member checking, to verify the interview transcripts; and
- making explicit the data analysis process,.

By employing these strategies, I could minimise areas of miscommunication. According to Johnson (1997:285), participant feedback, also known as 'member checking', is a strategy that can be used to enhance or strengthen the interpretative validity of the data. Accurate interpretative validity is crucial in any qualitative study as it allows the researcher to understand the phenomenological world of the research participant.

In strengthening the reliability of this research, Stenbacka (2001:552) contends that the most important issue in strengthening reliability in any qualitative research is whether the researcher makes the whole process visible, that is, making explicit how the data was created to how it was analysed and interpreted. Using Stenbacka's (2001) notion of strengthening reliability by making the data analysis process explicit, the researcher used Creswell's (2009:190) strategies to strengthen reliability. This was done by checking and ensuring that all transcripts were error-free, and by creating a coding protocol, which was used to conduct checks and balances, such as confirming that the correct procedure for coding was used for each transcript during the coding process.

Another strategy to strengthen the validity of any research is to provide a verbatim account of the participants' experiences. According to Johnson (1997:285), 'verbatim' is the lowest inference descriptor of all because you are using the exact words of the participant. By quoting the participant verbatim, the reader can get an idea of the participant's interpretations and personal experiences, and getting into the minds of the research participants is a common goal in qualitative research. Thus, what follows is a verbatim account of each participant's experience, presenting the findings of my research. This is done to provide the reader with the research participants' interpretations and personal understanding of attending a practice-based teacher professional learning programme.

In the interest of ensuring the anonymity and confidentiality of teachers, the participating teachers are identified as T1 or T2 for instance. All quotations are reproduced verbatim and unedited.

4.6.1 Perceptions of the professional development programmes

Teachers expressed their views on attending courses other than the AHEC programme. All teachers had previously attended various PDPs, other than the AHEC programme. All teachers stated that professional development courses were crucial as it helped them to keep up with the latest developments in teaching. Changes in their teaching contexts and the curriculum led to teachers always feeling the need to be "refreshed". T5 commented:

I have been on mostly workshops ... a Sunday workshop or weekend workshops ... those were the ones I went on, where they were mostly refresher courses, getting to grips with what I have gained over the years, what I have gained from my experiences, just refreshing, this is how things should be done.

However, teachers T4 and T5 seemed to have a rational fear of not wanting to be stuck in a rut and of being left behind, not just in terms of knowledge and new pedagogies, but also technology. As T4 commented:

[T]here are always new things coming out, so if you gonna be stuck behind the old way of teaching, 'chalk and talk', you gonna miss your kids, because now the kids are into this tablet, this technology, if you do not develop with them, you gonna be stuck behind.

T5, on the other hand went a step further by stating:

I think it is of utmost importance because ... for a teacher one can never know enough, because you will always be faced by pupils, and in this day and age we [are] living in, the children are more technologically advanced than the grown up; so it is of utmost importance that you as a teacher get to grips with what is currently happening ... so for a teacher it is very important to go through teacher development.

For T5, the fear of being usurped by learners can be avoided if the professional development courses are attended.

There was also an indication that attending professional development courses renewed their vigour for teaching. Teachers reported that it strengthened their positive beliefs and attitudes towards teaching. T1 stated:

[I]t motivates me, because I become frustrated and that is why I am constantly attending these courses.

T9 suggested that it gave him renewed energy to be the best and give his best:

You see every time you finish a course you are so vibrant, so energetic to implement these strategies, the knowledge that you gain into your daily conduct at school ... just energise you, puts you on another level to do your best.

However, it also makes a teacher develop a positive attitude towards teaching and it makes teaching enjoyable. T2 indicated that it is the new methods one learns that make teaching more positive and exciting:

Well, to tell you the truth, after each course that I attended, I always remained positive ... came back very positive and enjoyed my work very much, my way of presenting changed. You also see your results improving ... when you obviously use those methods ... like I said, it made me more positive, and you enjoy your work more and you are more excited when you come into the classroom and that is important.

The positivity and change in attitude stem from seeing an actual improvement in the results of learners, because these teachers implemented – with learners in the classroom – what they learnt whilst attending the course, and saw the positive benefits of implementing the new strategies.

The brevity of some workshops, conducted by the WCED, was a concern. Teacher T1 commented that the short afternoon workshops caused frustrations in the classroom, because the time to train in the afternoon was too short:

[A]nd as usual, when you attend training sessions from the department, it's usually just an afternoon, and that is too short ... when it's in the afternoon, someone shows you too quickly and then you struggle in the class and there is no time in the class to still struggle.

Teacher T3, however, went a step further and commented on what the other workshops meant to him. This teacher attended workshops, but indicated that the focus was mostly on theory and did nothing for his practice;

Theoretically, it developed me but practically there was nothing.

The successes for teachers attending professional development courses relate to new knowledge and theories being learnt, which leads to becoming energised, motivated and refreshed. When these new ideas, knowledge and theories are put into practice in the classroom, and they actually work, that is when attitudes and beliefs are positively changed. A challenge about professional development was linked to the brevity of the workshops. Afternoon workshops, as one teacher stated, are too short and they leave the workshops more confused, and thus battle in their classes the next day when attempting to implement what they have learnt the previous afternoon.

4.6.2 Need to learn new content or theory and pedagogy

The findings indicate that learning new pedagogy and content on the AHEC programme had different effects on different teachers. For some, it was about boosting their confidence to teach in a practical, hands-on approach, and becoming more positive about their teaching and learning. T1 commented:

I think I will say that it is very much hands-on ... you actually do it ... in some programme, there is a person that always talks and we just listen ... you are actually busy, you are almost like a learner, and you must just do it, if you struggle then the facilitator is there to help you ... it does something to a persons' confidence.

Interesting to note that T1 also indicated that the AHEC was different to other programmes, because it was not about knowledge transmission, but knowledge transformation. Teacher T6, indicated that the AHEC programme gave him more impetus to improve his knowledge for teaching:

Sometimes the knowledge that I think I have is proper, sometimes it is not or it must not be delivered the way I feel it should be delivered ... so when I get to the professional developments, it aligns me to the knowledge.

It seems the AHEC programme also provided teacher T2 with clarity on understanding the concepts, which gave him the confidence to present the lessons with his learners in a different way by taking risks. T2 stated:

More clarity, because most of the time there are concepts that are a bit vague ... on this course it is made much clearer, now you can present it better ... and, naturally, if you look at the difficulty level, where in the past you presented something to the learners ... now you take risks, and you go deeper and do more difficult problems ... your confidence is boosted.

Teacher T8, on the other hand, became “fearless” in his approach to teaching his learners, such was the confidence the AHEC programme gave him. T5 stipulated that the course changed him as a teacher and as a person, indicating a total transformation in his personal and professional being:

[I]t has made me a changed person, I wake up with a song in my mouth ... I am going to learn with my children ... I make it pleasant for them ... it is an open class ... I am afraid of nothing ... this course has changed me so much that I know what method I will be using today ... this course has changed me for the better ... I am positive every day and the positivity has ensure that I am there for the child ... it has totally changed my practice and the children learn much better ... there is a trusting relationship between my children and I.

This has led to the establishment of a trusting relationship between him and his learners because he was doing it for the learners and no one else.

For other teachers, the AHEC programme was about doing things differently. Some indicated that learning new content and pedagogy allowed them to teach in a more practical, hands-on way. T7 stated:

“my presentation has always been that the children must discover the knowledge themselves, this course made things very practical...draw your own lines, they develop the formulae themselves...show the video, it makes it more visual and practical”.

The activities they did in the AHEC programme, allowed for that to happen, T5 indicated

[T]o a great extent, let me explain how I experienced it ... we were given a scenario of how you take your child from the knowledge that they had, the previous knowledge and how you take them from there, to the new knowledge that they are supposed to be gaining ... that was quite exceptional for me because the activities that were given were very nice activities, you can use in your classroom.

Again, the issue around not being stuck in a rut was mentioned. It seems that the learning of new knowledge and pedagogy on the AHEC programme, was a way of always reinventing one’s teaching, T5 stated

[W]hat they touched on is what we learnt in college, but in the process of teaching you fall into a groove and honestly we were told that in college as well, but remember to get out of that groove, and these courses got me out of that groove again, that I fell into.

Learning new content and pedagogy also made teaching more enjoyable and learning became easier for learners. T2 alluded to how learning and teaching were done before and after attending the AHEC programme, and how the programme has changed his teaching practice entirely. He made reference to this by stating:

[I]n the past you rushed through the stuff ... lightning quick through the stuff ... but if we now use the method presented, the children understand it better and they answer the questions better ... the way in which we also set up the questions, they answer the questions now better.

When teachers come together to learn new content and pedagogy, it seems to create a collegial and collaborative space to share ideas and information. Alluding to always looking for new ideas on how to teach, Teacher T1 stated:

[Y]ou come into contact with other teachers ... we talk about what do you do or what do I do in a situation ... there is now an opportunity to learn from each other ... then you think come let's try because it sounds like a good idea.

Teacher T2 alluded to peer learning taking place during the workshops:

For me, it was a big difference, especially with the type of activities that were given to you and had to apply ... and then, naturally, the interaction with other educators ... you had to explain it them ... the manner in which we communicated ... different ways and become aware of how to tackle the problem, it is not one boring method, because you hear about other methods from the teachers ... so there are always opportunities to explain what you understand ... how other teachers do it ... whereas in other courses, there is only one method that they apply, there was only one way of how it could be presented and carried over to the class.

This seemed to indicate that peer learning was not about teachers sitting and listening, but alluding to the constructivist nature of training.

Lastly, one teacher indicated that the new content and pedagogy to which he was exposed in the AHEC programme, was suitable to try to bridge the theory–practice gap, meaning theory as in content learnt, and practice as in classroom implementation. Teacher T3 stated

[W]hat you need to make clear is bridging ... you come to higher education and you come as a student from there and the student comes into the class with not much practical experience ... you can clearly see the trend and how it can be implemented in the classroom.

The successes associated with learning new knowledge and pedagogy on the AHEC programme is that teaching became a practical, hands-on experience, which boosts teachers' confidence. There was no *transfer* of knowledge and pedagogy, but rather knowledge *transformation*. This came as the result of the interactive nature of the course. As participants engaged with the new knowledge and pedagogy during the contact sessions, they embodied the new knowledge, which gave them the confidence to take calculated risks in their teaching. This embodiment saw some teachers being personally and professionally transformed and establishing trusting relationships with their learners. The contact sessions were also viewed as safe collegial and collaborative spaces for teachers to learn from their peers. Another teacher indicated that learning new knowledge and pedagogy was one way of bridging the theory–practice divide in teaching. No challenges were mentioned about learning new knowledge and pedagogy, but I can only assume that a challenge could be about creating opportunities or spaces for knowledge to be transformed as opposed to being transferred.

4.6.3 Becoming a lifelong learner whilst on the AHEC programme

All the teachers expressed the importance of constantly improving their teaching, for the greater good of their learners. This willingness or drive to change, restructure and improve their teaching is influenced, year on year, by contextual changes, mostly brought on by the different types of learners in their classroom each year. T1 commented:

[B]ecause I teach Mathematics and because of the level of maths in our schools, we are always looking for better ways to present it so that our learners can perform better.

T5 also expressed that there is a level of satisfaction one gets when noticing an improvement in learner performance after attending and implementing what was learnt on the AHEC programme:

[I]f you put that into practice with your kids, you can notice the difference in their reactions and it is actually a way of getting back that satisfaction of achieving something.

T2 was quite adamant that teachers “cannot sit still” and they must constantly attend courses to “improve themselves in the profession”.

Teacher T7 also alluded to the notion that one is never fully developed and you constantly need to improve. She did not mince her words when she said that it is a teacher’s duty to be a lifelong learner:

When you are a teacher, you are a lifelong learner, and so you must improve yourself, until the day you retire. There will never be a moment where when you can say that you cannot be further developed.

One teacher, T8, referred to lifelong learning as “continuous sustainable development”, because he viewed attending the AHEC programme as a learning process.

This willingness to improve, because of contextual changes, can only be achieved when teachers become lifelong learners. The AHEC programme gave teachers the tools and the skills to become lifelong learners, because it awakened the need always to do things for the greater good of the learners; it provided them with the skills to deal with the year-on-year contextual changes. When they applied new strategies with learners, it improved their learning. Teachers derive immense satisfaction from the need to learn new things; culminating in becoming a lifelong learner.

4.6.4 Modelling teaching or support or mentoring by experts whilst on the AHEC programme

Most teachers found the support offered by the mentor, whether in a cluster session or during one-to-one on-site support, very valuable. T8 stated, “It was excellent...good, excellent”; and T2 said, “He [the mentor] fulfilled a very good role”, while T6 thought, “It [mentoring and support] did very well”. The most important characteristic of having a mentor was the idea of sharing ideas with someone they regarded as an expert, and having a trusting relationship, a sort of ‘shoulder to cry on’ or ‘a soundboard for ideas’.

Teacher T8 commented on the social nature of the mentoring:

[I]n the sense that you learn this, you can apply this and you can share ... learning was very social and I was excited about the course.

T9 stated that she was comfortable with the mentoring sessions because the mentor set out clear ideas on what they were going to do, unlike the official visits by officials from the Department of Education –

[B]ecause she [the official] briefed us what it is all about, you see there wasn't like curriculum advisors that come and sit because know you're nervous and you don't know what they expect ... or you don't know what you expect from them and so on ... the cluster meetings were very much informative.

Teachers also indicated how the mentor was able to link the training material to the practical implementation of the material in the classroom. T4 stated:

[B]ecause with the one on one, she was mainly dealing with my programmes that I have ... then with the cluster we shared a lot of problems and a lot of ideas ... she was also able to tell me where, the secrets or important aspects on the concepts, secrets like that.

However, two teachers had challenges with mentoring. T1 had logistical challenges that resulted in her not obtaining maximum value from the process. T1 stated

I mean it is something that must really be planned properly ... it was a difficult meet because of our schedules ... then also the area where we live...because one day I had to drive out to a meeting ... which was okay but it was far ... and there was never a suitable time to present the lesson ... man, it was okay ... but as I said, it was really too little time to really add value and get something out”.

Although she acknowledged it was nice to have someone around to share ideas with, and contrary to the other teachers opinion about mentoring on the AHEC programme, T7 did not see the need for a mentor as she developed her own way of doing things:

I have my own way of doing things and I did not need a mentor ... I do not have a need for someone to tell me, so I did not find it useful.

This alludes to the notion that experienced teachers can become protective about their professional space. Overall, the mentoring process fulfilled a vital role for most teachers who attended the AHEC programme. The idea of having someone with whom to share ideas was enlightening and comforting to the participants. The social nature of the cluster sessions mediated learning in a positive and non-judgemental manner. The mentoring and support are not done in an official manner, as done by education officials when they visit the teacher.

For the education officials, it was always about compliance rather than support for the teachers' teaching. Having a mentor helped teachers to transpose the training material into teaching material in their classroom, implying putting theory into practice. Challenges associated with mentoring during the AHEC programme are logistical in nature, relating to arranging on-site support visits, travelling vast distances to cluster sessions, and not needing a mentor, because things are done 'my way'.

4.6.5 Sharing with peers on the AHEC programme

All participants agreed that sharing with peers is important. T8 commented:

I regularly share, especially with the younger teachers. I feel I have to share because it must motivate them to develop confidence.

Sharing, for all participants, is viewed as a confidence booster despite teaching alone in a specific phase. T3 stated that sharing leads to new ideas in dealing with concepts:

I always look for new ideas in order to make a difficult concept easy ... and simple in mathematical terms ... no, I do not find it difficult to share ... I am forward.

By "forward", he implied that he was not scared to ask.

One teacher, T5, indicated that sharing allowed him to shake off his introvert tag, because only through sharing could he improve his teaching:

[I]n my younger days I was very much of an introvert ... I am no more the introvert, I do not care what people say about me ... as long as what they say I can use to better myself.

Sharing for some entailed not just sharing with teachers in their schools, but also with teachers of the surrounding schools; wherever they feel they could make a difference, as stated by T8:

Let me tell you something, the three rural schools in Tulbagh ... they are feeder schools for the high schools ... I approached them and said this is the plan, and I could tell, when the children did the practical approach of certain tasks, the approach was very different ... I cannot keep things to myself, I have to share my knowledge.

Some teachers took a more structured approach to sharing by incorporating a special time in the school week to share new knowledge and ideas. T6 stated

[B]ecause they may have a problem with different concepts ... so if someone has a problem, or an issue or a view ... we just write a circular to move around, but we set aside a Tuesday.

This theme was by far the strongest that came through in all the interviews. Most teachers indicated that the success of the AHEC programme was the opportunities, via the contact sessions, cluster sessions, WhatsApp group and mentoring, which the programme created to share challenges with peers, and find solutions to their teaching challenges collectively. Many teachers shared internally within their own school, and externally with other teachers from other schools what had they learnt on the AHEC programme. Challenges expressed for not sharing were that teachers were sometimes too busy to share, although realising the value thereof.

4.6.6 Influence of self-reflection on teaching

Various reasons were put forward for why teachers need to self-reflect on their teaching. T1 indicated:

[E]very year, I never do the same tasks ... I try to change things.

T3 self-reflected on how learning takes place:

I reflect because everyone does not learn in the same way ... what one way is for that person, is different for the other.

Some felt that reflection was important for conceptual development, as T6 stated:

[B]ecause we can't go onto the next concept if you don't reflect ... but self-reflect is very important.

By this, she inferred that self-reflection is part of the teaching and learning process. Contextual changes seem to necessitate these reflections.

Another reason for self-reflection is actually to do introspection on their own improvement in teaching and learning, as stated by T9:

[B]ecause the kids are different as each year you will have the same class but different types of kids, so you need to reflect on what and how you go about your teaching.

This sentiment was shared by T7:

[W]hen the examinations start, then my head is already thinking of next year and I start thinking how I am going to do it next year ... you start to think that are getting new children next year ... you start thinking of how to do things differently.

For some, like teacher T9, it was about attending to learners' difficult questions, and how this keeps one abreast by self-reflecting on what learners have just asked

[I]t allows you to think deeper so that you are always ready for them ... you have always to ensure that you are ready for them.

However, some teachers would like to self-reflect, but face various challenges when attempting to do so. T4 stated

[S]ometimes it's a lot of work that I have and I do not always have the time as I'm always thinking of other work things.

T5 reported getting caught up in all sorts of things;

I get caught in a groove where I need to do this and I need to do that.

Although most find time for self-reflection and introspection, others face various challenges.

The acknowledgement of the diversity of learners in their classroom is probably the most important reason why teachers reflect. The need to reflect is linked to the year-on-year contextual changes that take place within their classroom, thus challenging teachers to do things differently each year.

4.6.7 Opinions on the practice-based AHEC professional learning programme

The narratives from the interview transcripts offered a wide range of opinions on how the AHEC programme was viewed and the effect it had on the teachers, starting with the group who said the AHEC programme influenced their teaching and learners' learning positively. Teachers, such as T1, discovered the benefits of doing things practically and its associated benefits on learners while also boosting her confidence levels:

I discovered there that when you do it practically, the child will learn better ... and that is the biggest thing, and that I also developed more confidence.

Also alluding to the practical nature of learning and highlighting the shift in teaching being one of knowledge transmission to knowledge transformation, T2 stated:

[I]t is important that when a child undergoes self-discovery and you guide him to self-discover, then he will remember it much better. There is no expectation of being spoon-fed, they discover for themselves and remember it much better,.

Some teachers offered their opinions of the AHEC programme by making comparisons to other teacher education programmes, which they had attended. T3 stated that the programmes he had attended in the past were usually "once-off training" sessions, but the AHEC programme was a "hand-in-hand" situation where someone literally walked with you on your learning journey. T3 went as far as to state that he thought that the AHEC programme closes the gap between higher education Institutions and what is happening on the ground in teaching. Alluding to closing the theory–practice gap, he said:

[I]t closes the gap ... because that what you have learnt, and when you implement it, someone comes and monitors.

Another teacher who highlighted differences between the AHEC programme and other programmes was T9, who made specific reference to the workshops presented by the education officials and alluded to a very top-down approach of training or based on the knowledge transmission mode of learning:

[T]he WCED, many of our teachers said they come and tell us what to do, they can't expect of us to do that now but they must first come and tell me nothing is right and nothing is wrong.

When referring to the AHEC and clearly highlighting the supportive nature of the course, in that teachers are not left to your own devices but are constantly supported, T9 stated:

[N]ow at this approach, the mentor first meets and tell[s] us the expectations and now you can deal and talk to her and ask questions and stuff, and now you come to this course and now you see this course is about this; you pick up the points of interest and now you need to go back and now the mentor asks how is the course.

One teacher, T8, felt that this course prepared him to become a lifelong learner –

[B]ecause it prepares you not just to sit still, but for a master's and doctoral degree, prepares you for lifelong learning ... I believe this.

He further said he now felt part of an important movement whereby this type of learning should be encouraged and promoted amongst teachers –

[S]o I would like the university to make this thing global ... especially for maths teachers it must be compulsory.

Concurring with T8 on this last point, T2 stated:

I think they must provide more training opportunities in other subjects, because we found it, as maths teachers, beneficial ... so if we can train teachers according to this approach it will be good.

The success of the AHEC programme was that teachers were taught to do things practically. When applied in the classroom, teachers could see the positive effects on their learners' learning, when the learners did things hands-on. The AHEC was also not your usual once-off, finite afternoon workshop, presented by the education department. Participating teachers said they felt that they were literally taken by the hand and supported throughout the process. The learning never stopped after the contact session, and the pace was determined by the teacher and no one else. The learning of new knowledge and pedagogy and the support offered by the mentors to transpose that new knowledge into teaching could be seen as a way of diminishing the theory–practice gap with which teachers struggle.

Finally, the combination of how the new knowledge was transformed, as opposed to it being transferred, the support offered to teachers by the mentors, and the opportunities of creating spaces to mediate learning socially, prepared teachers to view the AHEC programme as one that led to lifelong learning.

4.6.8 Suggestions for improvements to the AHEC programme

One teacher suggested that the number of mentoring sessions should be increased as it would provide more opportunities for sharing of ideas. T2 stated

Longer or more mentoring sessions ... too little time, there should be more time for interaction when we get together.

Another teacher, T7, wanted the assignments to be more practically orientated, stating:

I think it needs to be more practically orientated for the teacher ... the idea is good but it does not get used every year ... it must be adapted to suit one's needs ... concentrating more on the practical as opposed to the theory.

Both suggestions seem to indicate that more collegial and collaborative spaces need to be created as the idea of peer learning came through strongly in every interview; hence, indicating the value of the mentoring, be it individual or as a cluster. Teachers find value when they share their ideas and experiences and try some of the ideas. Despite the practical nature of the AHEC programme, teachers are always looking to further their practice by making things as practical as they can, hence the request for more practically orientated pedagogies.

4.7 Chapter summary

There was a need for SUNCEP to look at teacher education in a different light. This reflection on alternative modes of teacher education was initiated by SUNCEP studying the data on learner performance from various national assessments. SUNCEP then consulted literature on teacher development, professional learning and practice to rethink and develop a new approach to teacher education, called practice-based teacher professional learning. Using the aforementioned literature on teacher education, SUNCEP adopted a very broad philosophical positioning of learning as being an embodied, continuous and lifelong process, focusing the professional learning of teachers on an epistemological framework linked to knowledge acquisition as a human activity related practice. Using this philosophical positioning and epistemological approach led SUNCEP to conceptualise components of its practice-based teacher professional learning approach.

These components were –

- contact sessions for learning new knowledge or strengthening and transforming existing knowledge;
- mentoring to offer support for the teacher to bridge the theory–practice divide in teaching;
- practice-based assignments to implement new strategies and ideas in their teaching, and
- e-resources to offer teachers ideas on e-learning in the classroom.

These components were used in the design of the AHEC teacher professional learning programme on which this research was based. Data for this research report came from semi-structured interviews conducted with a sample of teachers who attended the AHEC Mathematics teacher professional learning programmes.

The findings from the data were extracted from semi-structured interviews done with Mathematics teachers who attended the AHEC teacher professional learning programme. Out of a population of 76, nine teachers volunteered to become research participants for my study. Each teacher was interviewed individually, and each one, before the commencement of the interview, signed a consent form. This consent form guaranteed their anonymity and gave them the option of withdrawing as a research participant at any time. The researcher transcribed the interviews, and each research participant validated the transcripts. The findings were extracted from the interview transcripts, which served as the raw data for this research.

Summarising, the findings from the data indicated that professional development for teachers is important as they need to keep up with the changes in the curriculum, and the contextual changes and challenges brought on by changes in technology and the fact that they have different learners in their classes every year. There was also a feeling among teachers of being energised and motivated when attending professional development courses, and becoming more positive when they saw positive results in learners' performance once they had implemented what had been learnt. Many viewed professional development as learning new ways of teaching and not staying “behind in the old ways of talk and chalk”. However, some professional development courses were too short, especially those held by the local education district or department, and the feeling was that it offered development theoretically and not practically.

Teachers viewed learning new content and pedagogy as opportunities to change their teaching practice entirely, and viewed the training or contact sessions as a way of coming together to share ideas on teaching and learning with peers. One teacher viewed the learning of new content and pedagogy as a way to bridge the theory–practice divide in teaching. It must, however, be stated that, at the time of this study, this individual was serving as a curriculum advisor in an education district in the Western Cape, South Africa.

The quest to become a better teacher and offer better learning opportunities for learners, is the key driver for teachers to become lifelong learners. For most of them, their passion for teaching is what drives them, and when they expose learners to new pedagogies, and the learners begin to understand, they experience immense levels of satisfaction. Moreover, the learning of new subject content and pedagogies seem to have had a positive influence on the participating teachers' attitudes and beliefs towards teaching and makes being a lifelong learner worthwhile.

Teachers appreciated the idea of someone supporting them. The safe space created during the mentoring allowed teachers to be open and honest about their professional shortcomings. Many appreciated the collegial and collaborative safe space at the cluster mentoring sessions, although one teacher indicated that the vast distance she had to travel to the cluster mentoring session put a damper on her enjoying the session. She also noted that the cluster mentoring sessions could have been longer and the sessions more frequent. However, despite the logistical challenges, the opportunity to share with peers in a non-judgemental professional learning environment was probably the best way to learn new practices.

All teachers shared, whether at their own schools or whilst attending training sessions, and this was one of the strongest themes or narratives that flowed from the interviews with each teacher. All teachers agreed that sharing with peers was the best way to learn, and they wished more opportunities could be created for sharing whilst on the course.

Most of them reflected on their teaching, whether it was short, medium or long term. The need for self-reflection was important as it gave them a perspective on what they were doing right or wrong. Learners also require teachers to self-reflect as they constantly challenge teachers with questions the teachers cannot answer, forcing them to reflect and address learners' questions. Some participating teachers, though, reported that they realised the importance of self-reflection, but did not have the time to do so often enough.

All participating teachers noted the positive influence the AHEC programme had on their teaching and learning. Some teachers felt that the programme positively influenced their teaching and learners learning. When they saw the positive effects it had on learners' results, it strengthened their beliefs and attitudes towards teaching – validating the idea of the risks, for instance, saying, "I took to do something new, as per the AHEC programme, and now I am seeing the benefits." Other teachers expressed the positive influence the programme had on their teaching and learning by comparing it to other programmes, in which they had been taught via the transmission mode of transferring knowledge, in other words, "I say; you do". One teacher said that this was the first programme where he had felt that the gap between what he has learnt on the course and the implementation in the classroom was narrowed. Another teacher appreciated the AHEC programme as the approach made him a lifelong learner.

Not many suggestions were forthcoming as many felt satisfied with the way the AHEC programme was designed and implemented. The only recommendations were that more mentoring sessions be included in the approach; others wanted more practically orientated assignments and activities.

In the next chapter, I report on the analysis of the findings reported in Chapter 4, and place them in context of my literature review on the role of practice within the professional development and learning of teachers.

Chapter 5: Data analysis

5.1 Introduction

This chapter will look at the analysis of the findings of the data, as outlined in Chapter 4 of this thesis. To place the analysis of my findings in the context of this study, I need to remind the reader of the purpose of this study. The purpose was to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. The data that was created was used to strengthen the conceptual arguments around practice and the understanding of what is meant by a practice-based approach to teacher professional learning. The created data are transcripts of interviews, which recorded the experiences of teachers who were participants on a practice-based teacher professional learning programme, and the implications it had on their teaching practice.

My analytical lens, as outlined in Chapter 3, was a phenomenological one. Utilising this lens, I attempted to understand the lived experience of the research participants attending a practice-based teacher professional learning programme. I therefore analyse the individual personal experiences of the phenomenon, while simultaneously placing it in the theoretical constructs of my literature review on practice theory and professional learning. By addressing my main research question “What influence does the concept of practice have on bridging the divide between theory and practice on a practice-based teacher professional learning programme within Stellenbosch University?”, I analysed the data by focusing on the specific themes highlighted when I presented the findings of my data in Chapter 4. By drawing on the characteristics of practice as found in the literature review and relating them to my research findings, the idea was to determine which elements of practice teachers attending a practice-based teacher professional learning programme (the AHEC programme) found most useful to bridge the theory–practice divide.

5.2 Analysis of findings

The aim of this analysis was to relate the findings of the data to the literature on practice theory and professional learning, and its influence on practice-based teacher professional learning. As there were linkages between certain themes or categories, some themes or categories from Chapter 4 were collapsed to form one new theme or category. This was because certain elements of the data analysis strongly resonated across certain themes.

5.2.1 Perceptions about professional development programmes

For the teachers, who were involved in this research, professional development formed a crucial part of their professional growth. When one analyses the reasons for this growth, such as keeping abreast of new trends within technology because the learners have become technologically more knowledgeable, there is the need to refresh one’s content and pedagogy and also the fear of being usurped by the learners.

These teachers or research participants realised that their contexts change constantly. Hence, they need to change their teaching practice. There was a common narrative amongst most of the research participants that new 'stuff' or 'things' need to be learnt because "I have different learners coming to me each year".

Placing this within the context of the current study, one could interpret this as the participants' awareness of their changing contexts, thus the need to change the way they do things or in other words adapt their practice. In this regard, it would seem that teachers' practices provide an opportunity for their own human development and change. For teachers, professional development exposes them to new methods of teaching, and this allows them to adapt their teaching practice to their context. In further analysing teachers' perceptions about professional development, I am reminded of what Schoenfeld (1999) said that teachers are constantly aware of their teaching context and thus adapt their practice to their context, making teaching a rather 'messy' affair. However, if one analyses what these teachers are saying, then one realises that they understand the 'mess'; hence, there is a need to attend professional learning programmes and adapt their practices to suit their teaching context, thereby coping with the 'mess'.

An interpretation of these opinions about their own professional learning could also relate to the research participants or teachers feeling a sense of responsibility towards their learners. They invest themselves in professional learning activities, such as the AHEC programme, because they feel responsible for the development of the learner. According to Biesta (2014:17), education functions on three levels of qualification:

- First, the notion of being qualified, having sufficient knowledge and skills to do certain things, to function effectively.
- Second, education functions on a socialisation level – being educated to integrate successfully into the social, political and professional arenas.
- Third, education leads to subjectification – the emergence of independence as a result of becoming a specialist in a certain field, becoming autonomous in one's existence.

Therefore, using this argument, Biesta (2014:23) notes that becoming a teacher is linked to not only the subjectivity but also to the responsibilities associated with teaching. Teachers need to ensure that their "educational arrangements – our curricula, pedagogies, lesson plans do not lead to exclusion of learners, they do not shield them from their potential, but rather create open spaces for thinking and development" (Biesta, 2014:23). This can only occur if teachers are willing to take the risks and not be restricted by curricula that are specific and bounded to a particular socialisation. In line with Biesta's (2014) thinking, it would seem that the AHEC teachers do not slavishly follow the policy rules or procedures, but feel a need to ensure that they have the correct "educational arrangements' to realise their responsibilities towards improving their teaching and the learning of their learners.

Teachers feel they have the knowledge and skills to make a difference in their learners' lives. According to Hirst and Peters (1970:29), "a teacher must have views about both what is good or bad teaching, so that he can be in a position of responsibility in relation to others who have potentialities for both".

Another concern raised by the teachers relating to their experiences of professional development, was the format of the professional development workshops (excluding the AHEC workshops) they attended. Despite professional development opportunities granting them new ways of teaching, the brevity of these workshops was a concern for them. The focus of these workshops, as one participant stated, was that it developed his theoretical knowledge but not his practice. He put it as follows: "Having learnt the content on a workshop, there was no link to how it could be practically implemented, that is, no support was offered to practically implement what I learnt within my own teaching context". Learning for this research participant was finite, episodic in nature and decontextualised. Referring then to Webster-Wright (2009), who claim that if we are to consider ways of minimising the theory–practice gap, we should consider reframing professional development as professional learning. For researcher Webster-Wright (2009), the word 'development' has a finite tone whereas 'learning' implies something that is ongoing or continuous. Professional learning thus implies learning that is ongoing, situated in the site of practice, and lifelong as opposed to learning that is finite and episodic.

Therefore, analysing this concern around the brevity of workshops, refers to a finding in the NEEDU (2012) report, which stated that SA professional development activities at the time were made up of short afternoon workshops that were focusing mainly on theory and with no link to practical implementation. Despite changes in the curriculum after 1994 to alleviate any content that still perpetuated apartheid ideals, at the time of this research, education officials were still tasked with training teachers to attain a new set of ideals, linked to a new curriculum. SA educational researchers Jansen (1998) and Robinson (2002) noted that during the training of teachers – to implement these curricular changes – education officials conducted training sessions that were once-off information sessions devoid of teaching practice, constrained by time, and more focused on policy implementation than taking into account the contextual and practical implications for teachers. Because of the brevity of these workshops, it appeared that insufficient time was spent on how to implement the content learnt in a practical way, thus the implication was that it increased the theory–practice divide in teacher education workshops.

However, the fact that there were, and continues to be, more under-qualified as well as unqualified teachers than qualified teachers, makes retraining teachers a daunting task in post-apartheid South Africa. According to Robinson (2002), the original Curriculum 2005 training was based on the cascade model. However, Christie (1999, cited in Cross et al., 2016:181) points out that Curriculum 2005 was poorly planned, was hastily introduced in schools with teachers not being sufficiently prepared, and resources were inadequate.

The curriculum process did not consider the resource constraints or inadequate databases of the number of schools or teachers in the country carefully. It also suffered from a lack of or inadequate planning and co-ordination, coupled with poor strategic interventions in the introduction of OBE (Cross et al., 2016:181).

According to Robinson (2002), this curriculum reform process coupled with the cascade model of training saw teachers becoming more confused as the model entailed a filtering down of information. Core groups of teachers were trained in the new curriculum. They in turn, would train education district officials, who, in turn, would train teachers. These officials were expected to 'cascade' the information to classroom-based teachers, usually during in-service courses lasting three to five days or short afternoon workshops. Little or no follow-up support in classrooms took place. This had to allow information to cascade or filter down, but the original ideas and principles were watered down and/or misinterpreted down the ranks. In the eyes of national education planners, the cascade model was quick, cheap and thus politically attractive, even if its educational effectiveness was not obviously demonstrable. This resulted in a lack of confidence in knowledge and understanding for the trainers and confusion amongst the practitioners, namely the teachers. Despite the cascade model being quick, cheap and thus politically attractive, the approach was seen as too theoretical, it did not have practical application in the classroom, was based on the choices of the providers, and ignored teacher expertise (Robinson, 2002:294).

It seemed, upon analysis, that attending professional learning programmes is crucial to teachers' learning, but they need to be engaged with learning that is ongoing and situated as opposed to professional development activities that are finite or once-off and episodic. Teaching is not a rigid practice, but one that must allow practices to evolve to deal with the ever-changing contexts in which teachers find themselves. A theory is not going to account for dealing with a specific context; however, focusing on the practices in that context could offer a solution to teaching within various contexts. When teachers are engaged with professional learning opportunities that are ongoing or continuous and supportive, such as the AHEC programme, it could minimise the theory–practice divide, making it easier to put what they have learnt into practice. A teacher develops a set of practices, unique to his or her contexts and adapts such set of practices in a different context.

For teachers on the AHEC programme, minimising the theory–practice gap or what made it easier for them to transform their theoretical knowledge into practical knowledge comprised the following:

- The learning of new content and/or deepening the conceptual understanding of the conceptual knowledge during the contact sessions gives them the confidence to risk trying out new teaching practices in the classroom.
- Having a safe, collegial and collaborative space for sharing ideas with peers created opportunities to share and combine theory with practice.
- Becoming a lifelong learner to keep up with new content and pedagogies afforded the teachers to create the best opportunities for their learners to learn.

5.2.2 Need to learn new content or theory, pedagogy and becoming a lifelong learner

Linking with the above, the research participants alluded to the fact that the AHEC practice-based teacher professional learning programme offered teachers the opportunity to learn content that was relevant and practical. Over the last few decades, much has been researched about the various forms of teaching or instruction and how it influences learners' learning. There has been a shift from the behaviourist mode of teaching to a constructivist mode of teaching, and from a knowledge transmission mode of teaching to a knowledge transformation mode of teaching.

According to the teachers on the AHEC programme, they learnt content and pedagogy that provided them with new ideas to improve their efficacy. Capturing the essence of what teachers noted whilst attending the contact sessions on the AHEC programme, teachers felt confident to tackle the teaching of difficult concepts because their conceptual knowledge of the content deepened. This gave them the confidence to take risks, and subsequently to try out new pedagogies. The AHEC practice-based approach to teacher professional learning allowed teachers to interact, debate and engage with their peers, resulting in knowledge transformation as opposed to knowledge being transferred by the facilitator during the contact sessions and regurgitated by the teachers in their classrooms.

Participating teachers reported that interacting with the training material and with their peers provided them with the in-depth knowledge and skills to transform their teaching practice, shifting away from the behaviourist to a more constructivist mode of teaching. According to Biesta (2014:44), this shift to constructivism could be considered a singularity, as it radically shifted the focus from teaching to learning where teachers are now faced with the task of promoting learning with conceptual understanding as opposed to regurgitating knowledge. This alludes to what researchers Ball (2000) and Timperley (2008) are saying about what the focus of teacher training should be, namely that the learning of content should be in depth because deeper understanding, as opposed to a shallow understanding of the content, promotes effective changes in teaching practice. According to Timperley (2008), teacher professional learning programmes that are successful, are the ones that integrate teacher knowledge and skills by referring to theories of curriculum to effectively improve teaching. Alluding to what Boud and Middleton (2003) are suggesting, namely that for effective professional practice to be transformed, learning should combine theories of curriculum with practice.

Many of the participants also appreciated the collegial and collaborative space the training afforded them. This created opportunities to connect with their peers and share experiences around teaching practice, which made the learning of new content and pedagogies easier, thus combining theory with their practice.

For example, teachers T4 and T8 (see section 4.6.4) commented on how they shared their challenges and via this sharing, solutions to their teaching challenges were found and discussed with peers. The sharing opportunities, such as the on-site mentoring sessions and/or the cluster mentoring sessions, were spaces where what they learnt in the contact sessions could be transformed into effective practices that could be applied in their classroom. By combining theory with practice, this collegial and collaborative way of sharing and learning links to what many researchers in practice are saying about socially mediated learning. For Webster-Wright (2009), professional learning is socially constructed, embodied and linked to relating the new content and skills to the context. It is about focusing on how new knowledge manifests as new skills.

For Schatzki (2001:11–12), the very definition of a practice is the notion that new practices are created via socially mediated activities:

All practice theorists, meanwhile, acknowledge the dependence of activity on shared skills or understandings (which are typically viewed as embodied)...and a central core of practice theory is that it defines practices as embodied, materially mediated arrays of human activity centrally organised around shared practical understanding.

Collins (2001) contends that learning new practices involves the willingness to make mistakes, but most importantly, sharing with your peers or experts to offer guidance on changing one's practice. Alluding to Polanyi's (1966) notion of "we know more than we can tell", that is, sharing with peers makes the tacit knowledge explicit. The research participants' learning of new content and pedagogy can be analysed further within the Aristotelian approach of *phronesis*, *poiesis* and *praxis*. The thinking up (*phronesis*), designing of (*poiesis*) and implementing of new practices (*praxis*) are not viewed as separate activities. They are seen as processes on a continuum to design activities that are interlinked, or as Davids and Waghid (2017) call it, 'a nexus of activities, mechanisms to transform teachers' practice' and thus minimise the theory–practice divide.

Another reason for teachers wanting to learn new content and pedagogy is based on a need to become or to remain lifelong learners. Biesta (2014:63–65) notes that a shift to the lifelong learning paradigm came about as a result of the influence of new learning theories on teaching, such as constructivism. The shift from teacher-centred teaching to learner-centred teaching took into account different forms and modes of learning, that is, moving from the formal to the informal modes of learning, influenced by new liberal policies of education.

For teachers who attended the AHEC programme, acquiring new knowledge and skills were crucial to adapt to the context and the moment of their teaching. When teachers who attended the AHEC programme stated how the learning of new knowledge and pedagogies affected their practice, it was because of the approach of engaging with the new content, but in a practical, constructivist and relevant way. They have a passion for what they do and they only wish to offer their learners the best opportunities for learning.

Participating teachers reported feeling that because their contexts change, they have a responsibility and moral obligation to create different teaching opportunities for different types of learners for the greater good of the learners. Peters (1967:3) notes:

[T]o say that we are educating people commits us, in other words, to morally legitimate procedures. Often such minimal moral demands, which are connected with respect for persons, are further extended to exclude procedures such as giving children orders, which is thought by some to involve some sort of moral indignity.

In agreement with Peters (1967), Noddings (2003:243) states that good teachers practice when what they do is morally and ethically correct from a teaching perspective, creating critical thinkers who can function as productive members of society. Alasdair MacIntyre (MacIntyre & Dunne, 2002) also state that good teachers know that good teaching cannot be quantified when seeking to create self-sufficient critical thinking beings, as their focus is on creating beings who will be productive members of society. When good teachers start thinking along these lines, applications of practice manifest themselves to create individuals who will benefit and become part of the greater good. They manifest as practices where the teacher would pay individual attention to learners, listen to the learners and pay attention to the different capabilities of learners (MacIntyre & Dunne, 2002:4–5). If the purpose of education is to bring into the lives of learners something that will instil the skills for these learners to go out into society to sustain themselves in society, then teachers' practices must be geared towards that.

One thing participating teachers needed was more of this practice-based approach to professional learning; they wanted more opportunities to engage with their peers, to deepen their conceptual understanding of their content, and intermingle content (theory) with application to their teaching or pedagogy (practice), allowing the teachers to minimise their own theory–practice gap. Education, according to Peters (1966:144), is a human activity where an individual is initiated into 'something worthwhile' and according to Peters (1966:151), an activity is defined as something done with skill and effort accompanied by rules and standards. Hence, Peters (1967:10) notes that being educated is a complex process involving "mastery of some skills, knowledge, and understanding of principles".

For such an ideal to be realised, different things have to be learnt. Talk about 'education' is thus inseparable from talk about what is worthwhile, but with the additional idea that what is worthwhile has been or is being transmitted in a morally unobjectionable manner (Peters, 1967:3). One important way of transmitting worthwhile educational activities, according to Peters (1967), is via training.

Peters (1967:10) states that the concept of 'training' has application when –

- there is some specifiable type of performance that has to be mastered;
- practice is required for the mastery of it; and
- little emphasis is placed on the underlying rationale.

‘Training’ has application, however, in a wider realm than skill, for roughly speaking, the concept of ‘training’ also has application whenever anything answering to a clear-cut specification has to be learnt.

For the teachers on the AHEC programme, this clear-cut specification to be learnt is the learning of new knowledge and pedagogies, and the knowledge being transformed as opposed to knowledge being transferred. There is a drive to do things differently, and engage in teaching activities that are worthwhile for their teaching and the learners’ learning, as teachers acknowledge that their contexts changes every year, hence the insatiable need to alter their practice every year. Peters (1966) notes that when there is an insatiable need to satisfy the ‘teaching appetite’, activities within teaching can be transformed. The teachers’ experience is not only transformed by all that has been mastered, learnt and understood, but is always exemplifying the processes by means of which such mastery, knowledge and understanding have been acquired. As a consequence, new tasks or activities are constantly generated, leading to changes in practice (Peters, 1967:15). This transformation of knowledge happens during the contact sessions, when theory is combined with practice, and the catalyst for improving practice is the collegial and collaborative space created in the training contact sessions.

5.2.3 Modelling teaching, support or mentoring by experts

Peters (1967:10) states that a teaching skill is not learnt overnight. When a teacher learns a new skill, it should be practiced “under the eye of a skilled performer who both corrects and provides a paradigm of the performance” – alluding to the notion of support or mentoring by an experienced and expert teacher.

On the AHEC programme, there were two types of support or mentoring offered to the participating teachers. There were cluster mentoring sessions and individual or one-to-one on-site mentoring sessions. Upon analysis of the findings relating to mentoring, it became apparent that this was probably the most crucial aspect or component of the programme. This was the platform where theoretical knowledge learnt during the contact (training) sessions was transformed into practical knowledge. The idea of having someone “take your hand” – as one teacher stated – alluded to the supportive nature of the AHEC programme. The on-site support or one-to-one support by the mentors was also a deeply personal affair as teachers saw the mentors as the proverbial ‘shoulder to cry on’. The level of expertise shown by mentors to mentees to transform the theory into practice, within the mentees specific context, made changing the mentees teaching practice a less daunting and overwhelming task. The lack of mentoring is what was implied when teachers referred to the brevity of the professional development workshops, other than AHEC, to which they were exposed. They learnt theory but with no link to implementation or practical knowledge because there was no support – a sort of “I am here to train you, now that I’m finished, you are now developed” training which Ball (2002), Timperley (2008) and Webster-Wright (2009) claim to be finite, episodic in nature, devoid of context and not combining theory with practice.

The cluster mentoring sessions were also effective, and for some, this was the ‘actual training’. The role of the mentor was to guide the teacher into choosing the correct approach (practice) for his or her lessons, linked to his or her context. This important part of the programme was to help the teacher transform the knowledge learnt in the contact sessions into practical ways of teaching the new knowledge to the learners.

However, it must be noted that the mentors were termed ‘experts’ because of their many years of teaching experience, and as a consequence, the volume and wealth of information and knowledge about their own teaching which they could share with the mentees. Thus, the role of the mentor, despite being termed an ‘expert’ has to be outlined and defined within the context of the role the mentor played.

Despite being ‘experts’, the role of the mentor was intended to be a supportive role, not being the main actor in the play, as alluded to by T7 in the findings (see section 4.6.4 of this thesis), but a supporting role to the main actor, namely the teacher attending the AHEC programme. In his book *The ignorant schoolmaster*, Rancière (1991:7) argues that we should be cautious about the notion of being taught and guided by experts, as he claims:

The superior intelligence knows things by reason, proceeds by method, from the simple to the complex, from the part to the whole. It is this intelligence that allows the master to transmit his knowledge by adapting it to the intellectual capacities of the student and allows him to verify that the student has satisfactorily understood what he learned. Such is the principle of explication. From this point on...such will be the principle of *enforced stultification*.

Sometimes when experts impart knowledge to others, it could cause what Rancière (1991) terms ‘enforced stultification’, that is, the numbing or dumbing down of the teachers’ ability to practice their craft. Sometimes expertise, when enforced onto another, can inhibit the learning and creative process of the individual. What Rancière (1991) argues for is less explanation or no explanation at all, because explanation implies that the person cannot learn it for him- or herself.

In light of the above, one teacher (T7) made a profound statement in that she was the only one who did not see the need for a mentor. She claimed that she always had her own way of finding solutions for her teaching challenges, but did admit that it was nice having someone around to share ideas. This could be interpreted as being better to have someone to listen and guide you as opposed to someone who tries to enforce a specific ‘expertise’. It is therefore better to have someone act as a soundboard, as opposed to the mentor sounding off things that have no bearing on the teacher’s teaching and the context within which he or she works. It is also better to have someone just watch and observe, to allow your own ideas to come to the fore or to find solutions to your own challenges as opposed to someone giving you a textbook solution that has no bearing on your teaching context or which is not related to any of your challenges.

The role of the mentor should therefore not be that of an 'enforced stultifier' but rather someone who stimulates the teacher to break away from the restrictive and tedious procedures of his or her teaching and to find his or her own solutions unique to his or her contexts and challenges. If necessity is the mother of invention, then it will be through necessity that teachers will find the best methods to practice their craft, guided by a peer.

Linking to the previous section of having a safe and collegial space to share ideas, the cluster sessions were considered an even better space as there they could express their 'doings and sayings', as Schatzki (2001) states, in a safe, collegial, collaborative and non-judgemental space.

Many participating teachers admitted that the contact session had its place within the programme but it was the one-to-one on-site support and cluster mentoring sessions that they found most valuable. The teachers valued the space and opportunity to share their experiences with peers, who could relate to their teaching contexts, and hence, particular challenges. When comparing the AHEC cluster mentoring sessions to the ones held by officials from their respective education districts, teachers stated that the AHEC cluster sessions – which were free of the officiousness of the education department – were an opportunity for socially mediated learning to take place, dependent on shared skills and understanding amongst each other.

Most research participants indicated that these sessions run by the education department were always about compliance, as opposed to matters relating to strengthening content and/or improving teaching practice. For the teachers attending the AHEC sessions – when placed in an environment that was non-judgemental and unofficial – such environments become conducive to learning.

These unofficial and non-judgemental environments become opportunities for ostensive learning, that is, the tacit made explicit; it becomes an opportunity to share your 'know-how' so that we can 'know that' – it also became opportunities for thinking (phronesis), producing (poiesis) and enactment (praxis) of new practices, making it easier to learn new practices.

For Schatzki (2001) and Barnes (2001), no rules exist for developing practices – it is all about how the 'doings and sayings' are embodied to develop new practices. There was evidence of the latter in the cluster sessions. When official rituals do not govern social learning, the true voices about experience allow themselves to be heard, and thus new practices are born.

When the environment is non-judgemental and where social interactions and discourse are encouraged, teachers' practices become governed by thought and innovation, free of theoretical constructs and egos, influenced by Aristotelian notions of phronesis, poiesis and praxis. Practices provide the platform for human development, thus creating a platform from which practices are socially shared and mediated and providing an environment for new practices to be developed and implemented.

5.2.4 Sharing with peers and self-reflection

Sharing and self-reflection are iterative and cyclical in nature. We can only share what we have reflected upon, or once we have reflected upon what we did, we need to share those ideas. Thus most participants in this study felt that the notion of sharing and self-reflection is important, adding to their personal growth and professional learning. However, a few participants did not have opportunities to share with their peers or self-reflect on their practices. Their reasons for not sharing ranged from not having anyone to share with, or the remoteness of where they were teaching at that stage. For self-reflection, the reasons related to time, i.e. no time during the day even to think about reflection because they were too busy, but they still admitted the importance of doing so.

Within the context of the AHEC programme, all the components (such as the contact sessions, mentoring sessions and the practice-based assignments) of the practice-based teacher professional learning programme lent themselves to sharing and self-reflection. Sharing and self-reflection during the contact sessions, during the mentoring sessions and whilst doing the assignments were all geared towards changing practices and thus bridging the theory–practice gap.

Research by Roth (2010:22–23) found that implicit or tacit modes of learning were used as a mechanism to improve practice, but this was insufficient as it had to be in tandem with reflection and transformation. This notion is reinforced by Eraut (2010:39) who notes that tacit knowledge acquired through implicit learning can only be recognised by others when they draw inferences from observation. However, when reflective practices come into play, the learning becomes intentional and it manifests itself as explicit knowledge, becoming semantic codified knowledge.

Reflective practice is involved in the creation of knowledge and the acquisition of identity, which translate into how we function socially in the world. We learn things related to our social context, and we apply what we learn to the contexts within which our practices become meaningful. Learning should be intrinsically motivated and driven by sharing in a collective – an outline for a practical learning approach (Brown & Duguid, 2015:200).

The notion of shared practices is taken one step further by Kemmis (2011:5), who says, “practices involve social interactions in which ‘clients’ are not merely ‘objects’ operated on or influenced by practitioners, but persons-in-themselves who are, to a greater or lesser degree, knowing subjects who are co-participants in practice”.

One tends to forget that the very persons on whom we practice themselves become practitioners in developing their craft. Practices, thus, should always be viewed as reciprocal in nature and beneficial to both parties. Referring back to teaching – as teachers practice their craft on learners, learners themselves become practitioners in trying to master what they are being taught.

No theory will guide thoughts and actions as the two are intertwined. The way we think is not based on theories, and the way we enact our thoughts are not based on theories; practice thus evolves from thought processes with the individual or the collective. In practice, we tend to use these feelings and thoughts and just do what we need to do, because of the nature of who we are (Bloor, 2001:105). Within any social setting, practices can be viewed as something observable – such as participants communicating with each other or performing tasks as a collective. Strengthening the idea using social interactions as means of improving practices, Peters (1967:15) notes:

[C]onversation is not structured like a discussion group in terms of one form of thought, or towards the solution of a problem ... the point is to create a common world to which all bring their distinctive contributions. By participating in such a shared experience much is learnt, though no one sets out to teach anyone anything.

Successful practice must be informed by some knowledge of the practice itself. Without this informed knowledge, practice becomes routinised. It relies heavily on mere procedure and less on the purpose of the practice. According to Schatzki (2001), practices are an embodiment of who we are and define us as human beings. Practices precede our actions as actors in this process and they determine who we are. Practices create an identity that is unique and context-based.

5.2.5 Opinions on the practice-based approach to teacher professional learning and suggestions for improvement

Opinions about the AHEC practice-based professional learning are varied but positive and all seem to indicate it had some effect on changing teachers' practices. The teachers noted that their content knowledge and pedagogy were strengthened, allowing them to take risks in their approaches to teaching. It gave them the confidence to teach the content in new and varied pedagogical ways, dictated by their context. The mentoring and the individual or cluster sessions offered the support teachers needed to adapt their strengthened content knowledge and pedagogy to their teaching context, that is, to transform their newly acquired theories into practice.

The practice-based assignment influenced their thinking and allowed the teachers to reflect critically, together with their mentors, on how to implement their newly acquired content knowledge and pedagogy within their context. All of this, as one teacher (T3) indicated, minimised the theory–practice divide.

If one were to analyse these opinions, it clearly links to the characteristics of practice and how these characteristics influenced the components of the AHEC practice-based approach to teacher professional learning and how it could possibly minimise the theory–practice divide. To try to link the participating teachers' opinions about the AHEC programme and the characteristics of practice, let us revise these opinions, as expressed by the research participants and the characteristics of practice as expressed by practice theorists.

In their attempt to conceptualise the concept of practice, practice theorists (such as Barnes, 2001; Billett, 2010; Collins, 2001; Corradi et al., 2010; Kemmis, 2011; Schatzki, 2001; Turner, 2001 agree on the following characteristics of practice:

- practices comprise an array of human activity, socially mediated by humans, using human or non-human artefacts, are dependent on shared skills and are context-dependent;
- practices are embodied, which implies that ownership of said practice belongs to the practitioner and is unique to his or her context;
- practices shy away from the idea of analysing human behaviour, be it affective or cognitive, and oppose any idea that explicit rules, such as theory, inform social activity, i.e. practice;
- despite practices being created as part of a collective, practices are enacted by the individual alone in the context of the individual – experiences and self-reflection take place at the moment of the enactment, as a solo activity;
- there are no set rules for certain practices as they vary from context to context, and agreements verbal, oral, tacit or implicit can determine the set of practices for a particular activity, shifting towards practices as a collective, defined by paradigms and not bounded by theories, but encouraged by social interactions and discourse;
- practice theorists thus agree that practices provide the platform for human development and change. Essential to this development and change are the 'doings and sayings', whilst engaging in a social collective.

Looking at what participating teachers' opinions were about the AHEC programme included:

- All participants agreed that professional development is important, but it should not be finite or episodic in nature. Teachers require learning opportunities that are continuous and supportive. This speaks to making the shift from professional development to professional learning to bridge the theory–practice gap.
- The learning of new content and pedagogies should involve a combination of theory and practice and it should lead to a deep conceptual understanding of the content. The idea that learning new content and pedagogy was not just a case of knowledge transmission but knowledge transformation – leading to the ownership of this new knowledge. According to the literature (Ball, 2002; Korthagen *et al.*, 2006), when teachers have a deep understanding of the content, it gives them the confidence to take risks in changing their teaching practices, which transform their theory into practice. Becoming lifelong learners in the process is crucial as the need to learn new content and pedagogies must be continuous because teachers have a moral obligation towards their learners.

- Mentoring or support, opportunities to share with peers, modelling and self-reflection in collegial, collaborative, non-judgemental and unofficial environments, offer teachers the best opportunities to learn and for learning. It is within this space where innovation and thought drive the creative process. Practice theorists (Schatzki, 2001; Collins, 2001) all concur that learning new practices is a socially mediated process, driven by the 'doings and sayings' of the participants. Attempts to minimise the theory–practice gap are driven by these socially mediated processes, as opposed to using grand theories of curriculum or pedagogy in training sessions.

From the opinions expressed by teachers, it seemed that the AHEC practice-based professional learning programme strongly incorporates the characteristics of practice. It is especially linked to practices that are socially constructed, embodied and context-dependent.

According to Webster-Wright (2009) and Boud and Middleton (2003), for any meaningful professional learning to take place, learning should be integral to practice. Learning as a practice should be examined and not viewed as a practice that exists separately from other practices; learning should be sustained and perpetuated (continuous and thus lifelong). Timperley (2008:11) states that in order to promote deep teacher understanding and effective changes in practices, teacher knowledge and skills should be integrated in teacher professional learning programmes. Theories of curriculum, effective teaching and assessment should be developed alongside their applications to practice. Approaches that combine theory with practice, have a greater influence on teaching practice than approaches that expound theoretical constructs to teachers without methods to convert the theory into sound teaching practice.

Linking to suggestions by Ball (2000) and Korthagen et al. (2006) on how to minimise the theory–practice gap and combine theory with practice, brings into view the Aristotelian perceptions within the theory–practice debate. As a reminder to the reader, the Aristotelian perceptions within the theory–practice debate involve the processes of *phronesis*, *poiesis* and *praxis*. *Phronesis* is the knowledge required by the practitioner to perform the correct practices, sometimes referred to as 'moral knowledge', *poiesis* is that which is about to be produced, and *praxis* is the actual act of doing that which was thought out, made or produced and now enacted (Saugstad, 2002; Waghid & Davids, 2017; Whan, 1986). Utilising the argument, as stated by Waghid and Davids (2017), that these processes form a nexus, adds value to the notion that teacher education programmes should involve a process combining theory with practice. Thinking should not be separate from making, which should not be separate from doing.

These processes, from a teaching perspective, should evolve organically, be connected but never distinct from each other. If theories of curriculum, effective practice and assessment are to be developed alongside those of practice, the Aristotelian approach should be invoked. Thus, teachers should not just be practically involved in the lesson by making things 'practical', as facilitated by the facilitator, but should also be guided into the process of thinking and doing. Thinking about the practical knowledge required to make a moral decision for the greater good of the learner must lead to preparing or producing the script and finally enacting them to achieve the aforementioned ideals and goals. According to Saugstad (2002:383), what Aristotle teaches us by invoking this approach is:

Aristotle's perspective, therefore, shows us that there is not one given relation between theory and practice, but that many different possible actions attach themselves to each individual practical situation. Furthermore, he shows us that the competence to take action depends upon particular knowledge developed through experience of similar situations combined with a desire or an attitude to do what is right.

5.3 Chapter summary

Using a phenomenological lens, this chapter presented the analysis of the findings of the data, as presented in Chapter 4. The data was analysed, using practice theory as a theoretical framework, in an attempt to determine the elements of a practice-based teacher professional learning programme that would influence diminishing the theory–practice gap for teachers. As a point of departure, the data was analysed in the context of the original themes or categories that emerged from the findings of the data. As there were linkages between certain themes or categories, some themes or categories from Chapter 4 were collapsed to form one new theme or category. This was because certain elements of the data analysis strongly resonated across certain themes.

For teachers attending the AHEC programme, the evidence from the analysis of the findings indicated that practices can thus be viewed as governed by thought and innovation, free of theoretical constructs or concepts, invoking the Aristotelian notions of *phronesis*, *poiesis* and *praxis* (Waghid & Davids, 2017), and reflective thought (Hardy, 2012). Despite theorising via thought processes (*poiesis*), this theorising can be construed as a personal set of rules or a blueprint for enacting their practice (*praxis*) in a specific context. However, this context-dependent personal blueprint is constantly in tension with institutional, policy and curricular needs, in which teaching practices, guided by policy documents, are prescribed based on a particular educational theory – be it governed by behaviourism or constructivism. These theories usually advocate a one-size-fits-all model, which results in teaching being governed by curriculum policy, outlining a set of established rules and suggesting that teaching is either a set of context-dependent descriptive actions (personal blueprint) or a set of procedural actions, independent of context (institutional blueprint).

Consequently, much of what teachers need to know should be learned within the context and the moment, by implication, bridging the gap between theory and practice. Since knowledge is situated in practice, it must be learned in practice, which could make professional learning substantially meaningful and sustainable (Ball & Cohen, 1999:12). Finding mechanisms to minimise the theory–practice gap would entail focusing on making the paradigm shift from professional development to professional learning. Learning should not be a finite experience but a lifelong experience of improving one’s practice. In order to do so, learning should be contextual in nature and not be removed from the site of practice. Hence Webster-Wright (2009:705) proposes that we reframe professional development as CPL because learning at work is different to learning by attending professional development programmes and it is linked to the learning of practicing professionals. The focus of CPL is thus on learning (ongoing and lifelong) rather than development (finite, episodic, fulfilling a short-term need), and on being holistic (learning embedded in practice) rather than atomistic (separation of learning from the context in which it is applied).

Opportunities where knowledge is transformed as opposed to transferred become crucial to minimise the theory–practice gap. Only when the learning of new skills has a positive effect on teachers’ practice in the classroom does it become worthwhile. It thus becomes important to provide teachers with training opportunities in which new content and pedagogies are learnt. These transform the way teachers teach. Only then, according to Peters (1966), will teaching become a meaningful and worthwhile activity.

The next chapter summarises and concludes the thesis and provides a summary of the thesis, as well as certain recommendations for teacher professional learning policy and suggestions for further research.

Chapter 6: Conclusion and recommendations

6.1 Introduction

In this chapter, I conclude my thesis by summarising my main findings in terms of my research question and by looking at the significance of this research in the context of teacher professional learning policy in South Africa, and finally making recommendations for further research. This chapter will thus attempt to answer question 5 of my research sub-questions, namely “How can these challenges and successes inform teacher professional learning policies within a SA context?” and ultimately my main research question, namely “What influence does the concept of practice have on bridging the divide between theory and practice on a practice-based teacher professional learning programme within Stellenbosch University?”

6.2 Summary of the main analytical findings, as expressed by the research participants

There was an awareness amongst the research participants that teacher education programmes could play a crucial role in their growth and development as professionals by keeping abreast of current trends within teaching and thereby strengthening their content and pedagogy. The motivation to strengthen their content and pedagogy is driven by the changing contexts with which teachers are confronted every year. Some teachers stated that by improving their conceptual understanding of certain aspects of their knowledge, they felt more willing to take risks in changing their pedagogy. According to Ball (2000), when teachers master the knowledge required to teach, they will be able to use the subject matter more effectively and take more risks in their teaching, thus bringing the study of content closer to practice. Therefore, attending the AHEC teacher professional learning programme became worthwhile because it gave the research participants the confidence to take risks within their teaching.

The payoff for teachers was the improvement in learners’ results, motivating teachers to become lifelong professional learners, that is, always seeking new ways of improving their teaching practice and offering learners the best opportunities for learning. Participants also viewed the AHEC programme as an opportunity to engage with peers. The ability to share ideas and in a way validate their teaching practices, was important for teachers and was viewed as a benchmark for their practices.

Research participants also expressed their objections about how the WCED conducted their training programmes. These were, in most instances, too short and hardly any discussion took place around improving their teaching practices. The focus was always – and continued to be at the time of this research – on compliance as opposed to teaching. Participants indicated that training programmes conducted by the WCED were:

- disconnected from the realities of schools;
- detached from practice;
- disconnected from deep issues of curriculum and learning;
- seldom linked to a curricular view of the teacher's learning;
- too theoretical and totally unrelated to daily demands of teachers; and
- too theory-laden with insufficient focus on practice

The support offered to teachers attending the AHEC programme, via one-to-one on-site mentoring and cluster support groups, was one of the crucial components of the practice-based approach to teacher professional learning. Korthagen et al. (2006) claim that when developing teachers, professional learning programmes and learning from experts and peers are two important elements within the programme that could bridge the theory–practice divide in teacher professional learning. It addressed a very important aspect of professional learning in that it focused on how to transform the theory learnt in their training sessions to practice in their unique context.

When experts model teaching, they expose teachers to how they as experts take risks in developing new practices. Learning and sharing with peers create theoretical thoughts about pedagogies and subsequently renewed thoughts on practice.

For teachers attending the AHEC programme, this positively influenced their teaching practice and led to them seeking further opportunities for learning new methods of teaching, via the cluster mentoring sessions and on-site (one-to-one) mentoring visits. However, Korthagen et al. (2006), state that these spaces for sharing must not only be limited to physical spaces, but must also include virtual ones; hence, the use of social media, such as WhatsApp, on the AHEC programme. The use of WhatsApp became a form of cyber mentoring where information could be shared instantly.

Teachers frequently attend cluster meeting sessions held by education officials of the WCED, but issues around compliance rather than teaching practice are usually the order of business. When the AHEC programme provided teachers with a collegial, collaborative, unofficial and non-judgemental space to share their teaching practices, teachers found it invaluable. It allowed teachers to engage in ostensive learning, making the covert overt or making the tacit explicit. Not only was sharing with peers crucial to improving their teaching practices, but the ability to self-reflect was also important.

According to Ball (2000), teachers should be learning content and pedagogy in the context of their own practice, preparing teachers to teach flexibly in various contexts. Sharing with peers allows for this flexibility to occur and thus the ability to transform their ideas into practice.

When teachers shared or reflected, they did this either independently or created a space in their professional programme at school. However, teachers viewed the ability to reflect and share as being linked, as one can only share that which was reflected upon, creating a cycle of reflective thought that is iterative and ongoing. Placing this within the Aristotelian approach of using *phronesis*, *poiesis* and *praxis*, Waghid and Davids (2017) remind us that if we are to transform teachers' practice, *phronesis*, *poiesis* and *praxis* should be viewed as a nexus of activities, as opposed to being individual activities.

Summarising the participants' opinions on the AHEC programme, teachers felt that the AHEC programme:

- created opportunities for learning that were continuous, supportive and socially mediated;
- allowed them to combine theory with practice whilst learning new content and pedagogies – thus bridging the theory–practice divide;
- strengthened participants' conceptual understanding and thus gave them the confidence to take pedagogical risks in their teaching, leading to knowledge transformation as opposed to knowledge transmission;
- provided a platform for learning that is lifelong and sustainable, that is, providing the skills to change their practice to suit their context; and
- realised the importance of self-reflection and sharing with peers.

I am constantly of the opinion that school environments are dynamic and fluid environments. I have worked with teachers who were not necessarily deficient in content knowledge or pedagogy, but merely in ways of adapting their practices to allow for the ever-changing contexts of their classroom. This is a generational challenge, as many older generation teachers tend to teach the same way they taught learners twenty or so years ago, assuming that they are dealing with the same type of learner, not ever giving a thought to the cultural and social contexts that have vastly changed over the years. When I started developing my thoughts around this study, it was precisely with these teachers in mind. They are not bad teachers; they just lack the correct tools to change their practices in order to improve, or rather re-establish their efficacy. They still have much to offer, but their frustration in having to deal with an ever-changing context is what demotivates them, resulting in teaching becoming a routinised or procedural activity. It is not just the generational challenges, but a transient and temporal one too. SA teachers are always seeking opportunities for promotion and, as a result, tend to move from one school to another to further their opportunities.

With changing of schools comes contextual changes, and not many are adept at dealing with these contextual changes; again alluding to the lack of tools to allow them to adapt their practices in a different context.

6.3 Significance of the study and policy recommendations

Jansen (2001) states that a curriculum is nothing more than a blueprint to drive a political agenda of the state. If so, then the current practices of teachers in SA schools are driven by policies to achieve political and social objectives of interest to the state and not necessarily to the teacher or the learner. However, this is nothing new as the main concern for education policymakers worldwide – under the influence of politicians – is to ensure that the education system achieves the political and social outcomes, as outlined by policy. South Africa is no different, but the challenge for teachers in SA public schools – as outlined in Chapter 2 of this thesis – is that they lack the material and/or physical resources in their schools and, more dire, the lack of human resources to achieve these political and social goals. The implication of this is that in our schools, teachers are burdened with classes consisting of high numbers of learners, beyond the stipulated teacher: learner ratio and schools lack the required support to deal with these challenges, as outlined in the NEEDU (2012) report and research by Spaul (2013).

With classes comprising a large number of learners and no support or appropriate resources to deal with this challenge, teaching has become an activity associated with compliance rather than with the actual act of teaching for the greater good of their learners. Compliance, in public schools, has thus become the tragedy of good teaching or practices in schools, because when teachers tick all the boxes, in accordance with what the political and education administrators require, they are considered good teachers, as they have complied. This was evident in the empirical data when some of the research participants alluded to the nature of the WCED afternoon cluster sessions. These sessions, called standard-setting meetings, were about the number of tests, assignments or projects that have to be completed by the teacher every year, that is, what needs to be completed to comply with the academic and administrative requirements of the WCED.

When compliance defines good teaching, teachers will tend to ignore their teaching context, focusing instead on compliance. By complying, the teachers attending the AHEC programme felt that their creative ability to develop opportunities of learning for learners was stifled by policy. Policies are constricting what teachers can do in the classroom amidst their own context, and compliance has become the criterion against which good teaching practices is measured. Policy must not govern teaching absolutely, but rather act as a guide, to unlock the creative practices of teachers. My recommendations for teacher professional learning policies in South Africa are therefore based on the successes and challenges of the AHEC practice-based teacher professional learning programme, outlined below.

One important and successful aspect of the AHEC practice-based teacher professional learning programme was the learning of new content and/or deepening of the conceptual understanding of the teachers' conceptual knowledge during the contact sessions. The social spaces created within the AHEC programme, such as the contact sessions and the cluster mentoring sessions, invoked the discourse, amongst teachers, around the Aristotelian professional learning approaches of *phronesis*, *poiesis* and *praxis*. This afforded the teachers the confidence to risk trying out new teaching practices in their classroom. According to Ball (2000), improving teachers' conceptual understanding of their content knowledge is one mechanism to minimise the theory–practice gap and combine theory with practice. The teachers took ownership of their professional learning, allowing them the flexibility to develop – socially and/or independently – their own approaches to teaching. Professional learning policies should thus allow for the fluid development of teachers' own practices, by introducing and making explicit, the Aristotelian approach of *phronesis*, *poiesis* and *praxis* in teacher education programmes. Teachers should come to know that within teaching and preparing for practice, thinking is not distinct from making, which is not distinct from doing. This should become the teachers' mantra – whether pre-service or currently serving teachers – to combine theory with practice and to minimise the theory–practice divide. I am not proclaiming that current teacher education policies should be discarded. What I am suggesting for policymakers is an approach to allow teachers to develop their own mechanisms for their own professional learning, based on their professional and/or contextual needs, combining theory with practice and thus minimising the theory–practice gap.

Another success of the AHEC practice-based teacher professional learning programme is that it created safe, collegial and collaborative spaces for sharing ideas with peers. These spaces were opportunities to combine theory with practice. Another important finding from this study indicated that teachers find learning from their peers and via the support of a mentor one of the most important mechanisms for transforming their teaching and learning, thereby reducing the theory–practice gap. Whether socially mediated activities, such as the cluster mentoring sessions or contact training sessions, or whether offering one-to-one on-site support, having someone supporting you in your teaching made attending the AHEC programme a worthwhile activity.

Policy should thus allow for the creation of collegial, collaborative and safe spaces where teachers can share their content and pedagogies with their peers and/or experts. In these safe spaces, teachers should be able to build on their professional learning activities on the basis of what they know and not on what is officially prescribed and bureaucratically enacted. Spaces for the sharing should be conducted without the officiousness of the education system. These spaces must allow socially mediated activities to develop organically, and ownership of the new knowledge must be embodied by the teachers. Social media, such as WhatsApp, also contributed in part by offering another mechanism for socially mediated learning, albeit in cyber space.

The experiences of the participants in this research revealed that the practice-based approach to teacher professional learning offered different perspectives for teaching and learning. What was apparent from the empirical data was that all teachers wanted more mentoring and more opportunities for learning to be socially mediated. The only challenge was that there were too few of these sharing and mentoring opportunities. The empirical data found that opportunities to share ideas and experiences are more valuable than sitting in the contact sessions learning content and methods. This does not mean that such learning is not important, but the cry is for more opportunities for social mediated learning, and a strengthening of the support on site. The findings from the empirical data are therefore saying that teachers learn best when they are with their peers and when there is professional and expert support in their teaching context. These are the meaning-making opportunities that teachers find worthwhile and to which they attach value.

For policymakers, creating social learning and mentoring opportunities mediated by experts within teacher education programmes, where content (theory) and pedagogy (practice) can combine, could lead to minimising the theory–practice gap, thus leading to improved practice.

Another significant success, as revealed by the empirical data, is that the AHEC practice-based teacher professional learning programme motivated the research participants to become lifelong learners. The participants all felt a need that what they were doing was for the greater good of their learners, that is, they felt a moral and ethical responsibility towards their learners. Hence, they push the boundaries of their practice because this is what they were meant or born to do.

Becoming a lifelong learner to keep up with new content and pedagogies, helps teachers to create the best learning opportunities for their learners. Policy should therefore encourage learning that is continuous, supportive and worthwhile, that is, linked to the teachers' needs and contextual requirements. Professional learning opportunities should be geared towards learning opportunities that speak to pedagogies related to improving learners' results. Passion abounded within these teachers and it was this burning desire to become the best that drove them to attend professional learning opportunities, but these professional learning activities must be linked to improving their practice or offer alternatives to their current practices. The phrase 'wanting to do things better' resonated strongly throughout the empirical data. Participants reported that this is what drove them to become lifelong learners in pursuit of all things good for their learners. It is not so much about the theory, although it is somewhere at the back of their minds, but more about the implementation: How has what I learnt going to affect my learners?

Policies must not impose on teacher creativity, but should rather allow this creativity to manifest itself as good teaching and learning practices. Outcomes, objectives, aims, although important, could constrain the development of good practices and then its only purpose becomes to monitor compliance. Professional learning should be driven by the development of professional and to an extent personal relationships, driven by trust and hope in the ranks of all role players.

6.4 Bridging the divide between theory and practice

To determine what influence the concept of practice had on bridging the theory–practice divide on the SUNCEP AHEC programme, I focus on the most significant elements and characteristics of practice, which influenced the various components of the AHEC practice-based teacher professional learning programme, and how this minimised the theory–practice divide for the teachers attending the programme. After reviewing the literature on practice theory (Barnes, 2001; Billett, 2010; Collins, 2001; Corradi et al., 2010; Kemmis, 2011; Schatzki, 2001; Turner, 2001), the following important characteristics or elements of practice were identified:

- **Practices are an array of human activity, socially mediated by humans, using human or non-human artefacts, being dependent on shared skills and context-dependent**

Aligning with what Peters (1966) states, namely that education is a human activity, initiating people into worthwhile activities, practices could also lead to the development of activities that are worthwhile, knowledgeable and based on skills that are utilised for the greater good. Practices are developed when there is sharing of information, as revealed by the empirical evidence of this research. When the research participants engaged in social learning environments, they learnt more about how to transform their theoretical knowledge into practical knowledge within their own context. This was especially strengthened when the social group shared similar learning and teaching contexts.

- **Practices are viewed as embodied, implying that ownership of said practice belongs to the practitioner and is unique to his or her context**

Once the research participants attended the contact training sessions, many felt that their conceptual understanding of the content was strengthened, and they subsequently took ownership of their newly strengthened knowledge, taking risks in trying out new pedagogies in their classroom. The only reason why they mustered the courage to try out new pedagogies was that their content knowledge was transformed in a positive manner, making the contact sessions a worthwhile activity – worthwhile to take risks and try out new methods of teaching to improve learners' understanding. When theoretical knowledge is transformed, new practices evolve. This was validated by improved learner results. Because the research participants embodied and took ownership of their own professional learning, they felt they had the skills to adapt any changes to their teaching contexts.

- **Practices are not about analysing human behaviour – affective or cognitive – and practices oppose any idea that explicit rules, such as theory, inform social activity, i.e. practice**

For Schatzki (2001) and Barnes (2001), there are no set rules to certain practices. Practices vary from context to context, and agreements, whether verbal, oral, tacit or implicit, can determine the set of practices for a particular activity. Collins (2001) states that making mistakes whilst sharing with peers forms a crucial part of developing good practices; shifting towards practices as a collective, defined by paradigms not bounded by theories. Practices can thus be viewed as governed by thought and innovation, free of theoretical constructs or concepts, creating new thoughts around pedagogies. In education, school contexts differ from school to school – consequently defining practices as a set of rules where ‘one-size-fits-all’ is not possible.

- **Practices provide the platform for human development and change; development and change via the ‘doings and sayings’**

When learning is mediated socially, via the on-site mentoring or cluster mentoring sessions or contact training sessions, it leads to a strengthening of conceptual understanding of the content for the teachers on the AHEC professional learning programme. This is in line with practice theorists, such as Kemmis (2011), Schatzki (2007), Raelin (2007) and Webster-Wright (2009), who state that when new content is learnt within a collegial and collaborative space, then a strong conceptual understanding of the content is created. When others learn, they relate to experiences, which are shared collectively or individually. These experiences are integrated and processed into the teachers consciousness, which leads to learning and the development of new practices. According to Hirst and Peters (1970:48), “mental development is a matter of progression along a public road of experience, distinct from its particular content”. It is thus not only about the strengthening of the content knowledge, but also about the experiences, shared or otherwise, of the teacher, which leads to new knowledge. This boosts the confidence of teachers to take risks and try new teaching strategies, in other words, change their practices.

In response to my research question, introducing elements of practice theory within the components of the AHEC practice-based teacher professional learning programme allowed for learning to be socially mediated, supportive and embodied. The approach utilised during the contact session on the AHEC programme, was to utilise experts to model best practices and thus integrate theory and practice. The teachers, who attended these contact sessions, appreciated this approach and clearly stated that when their content knowledge was deepened, they took ownership of the knowledge (embodied the knowledge) to take calculated risks with their teaching, since they embodied the theory and they had the confidence to transform and practice their craft. From the literature review, Ball (2000) notes that when teachers’ content knowledge is strengthened and the purpose thereof made explicit, such teachers are placed in a position to bridge the theory–practice gap.

The mentoring component on the AHEC programme – cluster mentoring or one-to-one on-site support – led to learning being socially mediated and supportive, where theory was combined with practice. The research participants all indicated that these mentoring or socially mediated learning sessions played a key role in supporting their thinking when converting their theoretical musings into practice. Sharing, discussing and debating with peers in a safe, collegial and collaborative space, mediated by an expert, played an important role in addressing their teaching pedagogies in their unique context; utilising the nexus of *phronesis*, *poiesis* and *praxis*, as stated by Waghid and Davids (2017). According to Boud and Rooney (2011), when learning combines theory with practice, the skills required to bridge the theory–practice gap become tangible.

Therefore, based on the findings of this research, the implications for teacher professional learning policies within the SA context, are to conduct teacher professional learning programmes based on practice. Stated differently, professional learning of teachers should include aspects of learning that are socially mediated, supportive and embodied. These socially mediated, supportive and embodied aspects of learning should relate to the contextual needs of the teacher and develop the skills to convert the teachers theoretical ideas into practice. Teachers should be allowed to determine, under the guidance of experts, their own professional development needs. Mediated by experts, teachers should also determine the mechanisms to achieve their own professional learning goals. During the AHEC programme, teachers were constantly consulted on what they thought the next steps in their professional learning process should be. Discussion and consensus were key elements in defining their goals and how to achieve them. From the empirical evidence of this study, it was clear that the AHEC practice-based teacher professional learning programme achieved this. However, developing new approaches to teacher professional learning programmes cannot be done without developing meaningful relationships between schools, universities and teacher training colleges and student teachers. According to Korthagen et al. (2006), establishing this trinity is one mechanism to bridge the theory–practice divide in teacher professional learning programmes, namely that teachers in their various roles as learners, teachers and custodians and deliverers of knowledge, can understand how theory could inform practice and how practice could inform theory.

6.5 Suggestions for further research

According to Peters (1966:158), when something is discovered, it opens up fresh opportunities for things to be falsified and rediscovered or redeveloped; there must be “unending opportunities for fresh discriminations and judgements”. Research into the three areas of recommendation outlined below could further strengthen the policy recommendations made explicit within this research or offer alternatives for teacher education programmes.

In this thesis, various components of the practice-based approach to teacher professional learning were proposed. The components of a practice-based teacher professional learning approach, such as contact sessions or mentoring sessions, proposed in this research, have been conceptualised using elements of practice theory. These components, according to the empirical evidence provided by the research participants, contributed to minimising their theory–practice divide, that is, it allowed them to put their theory learnt in the contact sessions into practice in their teaching context. As there were various issues raised in this thesis that could be recommended for further studies, I wish to propose the following three recommendations.

A first recommendation for further study could be to look at the mechanisms within each component, which could contribute to minimising the theory–practice divide. Evidence of a finer grain size or with more detail could strengthen policy recommendations for teacher professional learning opportunities.

A second recommendation is that this study could also be replicated, and broadened to include the Life Science and Physical Science teachers who had been part of the AHEC practice-based teacher professional learning programme. Research into participants’ lived experiences of the AHEC programme could either strengthen the policy recommendations (linked to including elements of practice within teacher education discussed in this thesis in terms of teacher professional learning programmes) or it could offer alternative views on how teacher professional learning should be enacted for various subjects.

A third recommendation is that research needs to be done on the effects that policy documents, such as the CAPS or the Norms and Standards for Educators have on teachers’ practice. Are these policy documents promoting compliance or encouraging teachers to practice? Does the rigour or structure of policy documents allow teachers to make the paradigm shift and give them the skills to use theory to inform practice, or vice versa?

6.6 Concluding remarks

Apartheid South Africa saw teachers trained in the behaviourist ways of teaching, influenced by Calvinist principles called Christian National Education (CNE). Teaching was teacher-centred and concepts such as social learning and self-reflection were foreign to teachers. The doctrine of CNE promoted teaching that was prescriptive, procedural and transmitted through rote learning. The restructuring of the education system after 1994 attempted to banish the apartheid-driven logic of teaching where teachers were told what to teach, when to teach and how to teach, guided by policy documents which perpetuated apartheid ideals. This restructuring involved moving away from the teacher-centred behaviourist way of teaching to a more learner-centred approach called constructivism. The new curricula developed after apartheid changed rapidly to address the inequalities of the past; hence, the beginning of PDPs to familiarise teachers with the new constructivist paradigm of teaching.

Not everything worked, as the challenge, created by political pressure, was trying to introduce international best practices into the SA context without taking into account the unique SA context, which included a large number of under-qualified as well as unqualified teachers, trained in accordance with CNE principles. The limited time to upskill teachers along this new constructivist paradigm and a lack of financial and human resources saw government utilising non-governmental service providers to conduct training along the lines of the cascade model. Although the cascade model was cheap, quick and therefore politically attractive, it created challenges as the information was watered down and proved to be ineffective, especially when these training sessions were once-off afternoon sessions, with no follow-up and support to teachers.

As the years progressed, new PDPs such as the Advanced Certificate in Education was introduced, but these programmes focused on strengthening content knowledge with no applications in practice. In-service training initiatives for teachers were thus once-off afternoon sessions, with little or no support for teachers when they returned to their schools. From a pre-service perspective, the *Norms and Standards for Educators* (DoE, 2000) was and is still being used as guide for teacher training in South Africa. However, Morrow (2007b) claim that because the activity of teaching is predetermined by a set of guidelines, such as the *Norms and Standards for Educators* (DoE, 2000), it becomes theory posing as practice, as it does not take into account the contextual challenges of the teacher. Having a predetermined set of guidelines for teacher education does not allow for the fluid nature of professional learning, which is holistic, continuous, contextualised and lifelong (Webster-Wright, 2009). According to Morrow (2007b), teachers' work in South Africa is still driven by national, provincial and institutional policies, which stifles creativity and initiative. Agreeing with Morrow (2007b), research by Van der Berg et al. (2016) revealed that the methods of teacher training in South Africa are still unsuitable as the training does not address the challenges of transforming content knowledge into practice. Teachers still lack the basic content and pedagogical skills required to adapt their practices to ever-changing contexts in order to teach effectively.

The debate within the SA National Department of Education and the call as per the NEEDU (2012) report are still about the need for practice to be integrated into formal learning environments and teacher professional learning policies. The report suggests that research be conducted into professional learning programmes for teachers that are continuous, contextualised and lifelong – that is, entrenched in theories of practice – to minimise the theory–practice gap of teachers. Taking into account Billett’s (2010:2) recommendation, the focus should be on the concepts, practices and traditions that stem from practices and integration of formal curricula with practice curricula and pedagogies. Practice curricula should not be adjunct or incidental to formal curricula but integrated into professional learning programmes.

There should be increased and sustained pressure on higher education institutions to integrate experiences into workplace settings so that new knowledge may be developed to practice occupations, such as teaching, effectively. Practices should include the activities and interactions unique to the occupation, such as teaching, and should include the forms of conceptual, procedural and dispositional knowledge that underpin competent teaching practices. The act of learning and practice should not be distinct; the ubiquitous nature of learning should result in improved practice (Billett, 2010:2). It becomes crucial that canonical knowledge, of the occupation be applied in different settings. According to Stephen Billett (2010:5):

[A]daptable professional knowledge is required for adaptive practices in various contexts ... understanding the contextual requirements for performance and having an appropriate repertoire of responses is what is likely to lead to effective application of knowledge in various contextual settings”.

The potential contribution of this research is to offer suggestions, based on empirical evidence, on how to improve the efficacy of teacher professional learning programmes in the SA context. This study explored the current research on practice theory and examined the effectiveness of the abstract, theory-laden modes of teacher professional development initiatives in South Africa. The findings suggest ways of effective professional learning that have been proved, via the AHEC practice-based teacher professional learning programme, to elicit changes in teachers’ practices, taking into account the contexts within which teachers learn while they interact with others on practice-based issues. The study recommends a system of fluid activities in which knowing is not separate from doing and where learning is a social and participatory activity rather than merely a cognitive activity. The study therefore proposes a practice-based professional learning approach where teachers could learn in and from practice rather than in preparing to practice.

References

- Agassi, J. 1975. Institutional individualism. *The British Journal of Sociology*, 26(2):144–155.
Retrieved from
<http://www.jstor.org/stable/pdf/589585.pdf?refreqid=excelsior%3A49179c71e1ee669388a1880901480458> [29 January 2016].
- Ambrosini, V. & Bowman, C. 2001. Tacit knowledge: Some suggestions for operationalization. *Journal of Management Studies*, 38(6):811–829. Retrieved from
<http://dspace.lib.cranfield.ac.uk/handle/1826/961> [14 August 2015].
- Avalos, B. 2011. Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher Education*, 27(1):10–20. doi: 10.1016/j.tate.2010.08.007
- Babbie, E. & Mouton, J. 1998. *The practice of social research*. Ninth edition. Cape Town: Oxford University Press.
- Ball, D. & Bass, H. 2000. Interweaving content and pedagogy in teaching and learning to teach: Knowing and using mathematics. In J. Boaler (ed.). *Multiple perspectives on the teaching and learning of mathematics*. WestPort, CT: Alblex, 83–104.
- Ball, D.L. 2000. Bridging practices: Intertwining content and pedagogy in teaching and learning to teach. *Journal of Teacher Education*, 51(3):241–247.
- Ball, D.L. 2002. Toward a practice-based theory of mathematics knowledge for teaching. In E. Davis & E. Simmt (eds.). *Proceedings of the 2002 Annual Meeting of the Canadian Mathematics Education Study Group*. Edmonton: Canadian Mathematics Education Study Group, 3–14.
- Ball, D.L. & Cohen, D.K. 1999. Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling-Hammond (ed.). *Teaching as the learning profession: Handbook of policy and practice*. San Francisco: Jossey Bass, 3–22.
- Barnes, B. 2001. Practice as collective action. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 25–36.
- Bazin, Y. 2010. The practice perspective, a field under tension. In *26th EGOS Waves of Globalisation Colloquium*, Lisbon, 1–10.
- Biesta, G.J. 2014. *The beautiful risk of education*. New York: Paradigm.
- Bilbao-Osorio, B., Dutta, S. & Lanvin, B. 2014. *Global information technology report 2014*. Retrieved from <http://reports.weforum.org/global-information-technology-report-2014/> [14 April 2015].
- Billett, S. 2010. Learning through practice. In S. Billet (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 1–20.
- Bloor, D. 2001. Wittgenstein and the priority of practice. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 103–114.
- Boud, D. & Middleton, H. 2003. Learning from others at work: Communities of practice and informal learning. *Journal of Workplace Learning*, 15(5):194–202.

- Boud, D. & Rooney, D. 2011. A practice approach to studying professional learning: “Can’t get no satisfaction.” Retrieved from https://scholar.google.co.za/scholar?q=practice+approach+to+professional+learning...can%27t+get+no+satisfaction%2C+Boud&btnG=&hl=en&as_sdt=0%2C5 [21 January 2015].
- Brown, S. & Duguid, P. 2015. Knowledge organization: A social-practice perspective. *Organization Science*, 12(2):198–213. Retrieved from <http://www.jstor.org/stable/3086055> [13 August 2015].
- Bryman, A. 2008. *Social research methods*. Third edition. Oxford: Oxford University Press.
- Bunge, M. 1979. A systems concept of society: Beyond individualism and holism. *Theory and Decision*, 10(1):13–30. Retrieved from <http://link.springer.com/article/10.1007/BF00126329> [2 December 2015].
- Carr, W. 2004. Philosophy and education. *Journal of Philosophy of Education*, 38(1):55–73.
- Carr, W. 2005. The role of theory in the professional development of an educational theorist. *Pedagogy, Culture & Society*, 13(3):333–346.
- Carr, W. 2006. Education without theory. *Journal of Educational Studies*, 54(2):136–159. Retrieved from <http://www.jstor.org/stable/3699253> [1 July 2016].
- CDE (Centre for Development and Enterprise). 2015. *Teachers in South Africa: Supply and demand 2013–2025. Executive summary*. Retrieved from <http://www.cde.org.za/teacher-supply-and-demand-2013-2025/> [20 April 2015].
- Chisholm, L. 1999. The democratization of schools and the politics of teachers’ work in South Africa. *Compare: A Journal of Comparative and International Education*, 29(2):111–126.
- Chisholm, L. 2005. The state of South Africa’s schools. In J. Daniel (ed.). *State of the Nation South Africa 2004–2005*. HSRC Press, 201–226. Retrieved from http://books.google.com/books?hl=en&lr=&id=c8acdGMyAAQC&oi=fnd&pg=PA201&dq=provincial+budgets+south+africa&ots=cZuszfe_1H&sig=VmoAutwHcWd1uLOzHrwc45EnRG4 [24 September 2015].
- Christie, P. 1991. *The right to learn*. Second edition. Cape Town: Ravan Press.
- Christie, P. 2006. Changing regimes: Governmentality and education policy in post-apartheid South Africa. *International Journal of Educational Development*, 26(4):373–381.
- Collins, H. 2001. What is tacit knowledge? In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 115–128.
- Coombs, J.R. & Daniels, L.R.B. 1991. Philosophical inquiry: Conceptual analysis. In E.C. Short (ed.). *Forms of curriculum inquiry*. Albany NY: State University of New York Press, 27–42.
- Corradi, G., Gherardi, S. & Verzelloni, L. 2010. Through the practice lens: Where is the bandwagon of practice-based studies heading? *Management Learning*, 41(3):265–283.
- Creswell, J.W. 2003. *Research design: Qualitative, quantitative and mixed methods approaches*. Second edition. London: Sage.

- Creswell, J.W. 2009. *Research design: Qualitative, quantitative and mixed methods approaches*. Third edition. London: Sage.
- Cross, M., Mungadi, R. & Rouhani, S. 2016. From policy to practice: Curriculum reform in South African education. *Comparative Education*, 38(2):171–187. Retrieved from <http://www.jstor.org/stable/3099783> [14 December 2016].
- Dauids, N. 2015. On the un-becoming of measurement in education. *Educational Philosophy and Theory*, 49(4):422–433.
- Dauids, N. & Waghid, Y. 2017. Educational theory as rhythmic action: From Hannah Arendt to Giorgio Agamben. *South African Journal of Higher Education*. 31(5): 1 – 13.
- DBE (Department of Basic Education). 2015. *Report on the annual national assessment of 2014*. Retrieved from http://www.saqa.org.za/docs/rep_annual/2014/REPORT%20ON%20THE%20ANA%20OF%202014.pdf [2 December 2015].
- DBE (Department of Basic Education). 2014. *National Senior Certificate examination 2014 technical report*. Retrieved from <http://www.education.gov.za/LinkClick.aspx?fileticket=5nWkeqFfYgM=&tabid=358&mid=1325> [2 December 2015].
- DBE (Department of Basic Education). 2015. *2015 National Senior Certificate examination report*. Retrieved from http://www.ecexams.co.za/2015_Nov_Exam_Results/2015%20NSC%20Technical%20Report.pdf [27 January 2017].
- DBE (Department of Basic Education). 2016. *2016 National Senior Certificate report*. Retrieved from http://www.ecexams.co.za/2016_Nov_Exam_Results/2016%20NSC%20School%20Subject%20Report.pdf [27 January 2017].
- DoE (Department of Education). 2000. *Norms and standards for educators*. Retrieved from <http://academic.sun.ac.za/mathed/174/NORMS%20AND%20STANDARDS%20FOR%20EDUCATORS.pdf> [17 March 2015].
- DoE (Department of Education). 2004. *White Paper on e-Education, South Africa*. Retrieved from <https://www.education.gov.za/Portals/0/Documents/Legislation/White%20paper/DoE%20White%20Paper%207.pdf?ver=2008-03-05-111708-000> [23 March 2017].
- Eberle, T.S. 2014. Phenomenology as a research method. In U. Flick (ed.). *The Sage handbook of qualitative data analysis*. London: Sage, 184–203.
- Elkjaer, B. 2005. Social learning theory: Learning as participation in social processes. In M.A. Easterby-Smith (ed.). *The Blackwell handbook of organizational learning and knowledge management*. New York, NY: Blackwell, 38–53.

- Equal Education. 2015. *On the 2014 matric results*. Retrieved from <https://www.equaleducation.org.za/article/2015-01-07-on-the-2014-matric-results> [2 December 2015].
- Eraut, M. 2010. Knowledge, working practices, and learning. In S. Billet (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 37–58.
- Golafshani, N. 2003. Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4):597–607. Retrieved from <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf> [30 January 2017].
- Guest, G., Namey, E. & Mitchell, M.L. 2013. *Collecting qualitative data: A field manual for applied research*. London: Sage.
- Hardy, I.J. 2012. Researching professional educational practice : The case for “dirty theory.” *Educational Theory*, 62(5):517–533.
- Hirst, P. & Peters, R. 1970. *The logic of education*. London: Routledge.
- Hirst, P.H. 1963. Philosophy and educational theory. *British Journal of Educational Studies*, 12(1):51–64. Retrieved from <http://www.jstor.org/stable/3118921> [11 June 2016].
- Hirst, P.H. & Peters, R.S. 2001. Education and philosophy. In P.H. Hirst & P. White (eds.). *Philosophy of education. Major themes in the analytic tradition. Volume 1: Philosophy and education*. London: Routledge, 27–38.
- Imig, D. & Switzer, T. 1996. Changing teacher education programs: Restructuring collegiate-based teacher education. In J. Sikula (ed.). *Handbook of research on teacher education*. Second edition. New York, NY: Macmillan, 213–226.
- Jansen, J.D. 1998. Curriculum reform in South Africa: A critical analysis of outcomes-based education []. *Cambridge Journal of Education*, 28(3):321–331.
- Jansen, J.D. 2001. Rethinking education policy making in South Africa: Symbols of change, signals of conflict. In A. Kraak (ed.). *Education in retrospect policy and implementation since 1990*. Pretoria: HSRC Press, 41–57.
- Johnson, R.B. 1997. Examining the validity structure of qualitative research. *Education*, 118(2):282-292.
- Kahn, S. & Zeidler, D.L. 2017. A case for the use of conceptual analysis in science education research. *Journal of Research in Science Teaching*, 54(4):538–551.
- Kemerling, G. 2005. *Concepts*. Retrieved from <https://plato.stanford.edu/entries/concepts/> [14 March 2018].
- Kemmis, S. 2011. What is professional practice? Recognising and respecting diversity in understandings of practice. In C. Kanes (ed.). *Elaborating professionalism: Studies in practice and theory*. London: Springer, 1–31.
- Kennedy, M. 2016. Parsing the practice of teaching. *Journal of Teacher Education*, 67(1):6–17. doi: 10.1177/0022487115614617

- Korthagen, F., Loughran, J. & Russell, T. 2006. Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, 22(8):1020–1041.
- Korthagen, F.A.J. 2001. Linking practice and theory: The pedagogy of realistic teacher education. *Annual Meeting of the American Educational Research Association*. Seattle. Retrieved from <https://pdfs.semanticscholar.org/be40/15bb54daa4d71a56236e5b0f0e8b4f02e9d9.pdf> [20 June 2015].
- Korthagen, F.A.J. & Kessels, J.P.A.M. 1999. Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher*, 28(4):4–17. Retrieved from <http://www.jstor.org/stable/1176444> [23 November 2015].
- MacIntyre, A. & Dunne, J. 2002. Alasdair MacIntyre on education: In dialogue with Joseph Dunne. *Journal of Philosophy of Education*, 36(1):1–19. doi: 10.1111/1467-9752.00256
- Maggetti, M., Gilardi, F. & Radaelli, C. 2015. Conceptual analysis. In *Designing research in the social sciences*. London: Sage, 21–41.
- Maxwell, J.A. 2013. *Qualitative research design: An interactive approach*. Third edition. Los Angeles: Sage.
- McMillan, J.H. & Schumacher, S. 2006. *Research in education: Evidence-based enquiry*. Sixth edition. Boston: Pearson.
- Merriam, S. 2009. *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Morrow, W. 2007a. *Learning to teach in South Africa*. Pretoria: HSRC Press.
- Morrow, W. 2007b. What is teachers' work? *Journal of Education*, 41(1):3–20.
- Mullis, I.V.S., Martin, M.O., Foy, P. & Arora, A. 2012. *TIMSS 2011 international results in mathematics*. Amsterdam: International Association for the Evaluation of Educational Achievement.
- Myres, K. 2013. Semi-structured interviewing. PowerPoint presentation. University of Cape Town.
- Naidoo, S. 2014. AHEC Research Operational Framework. Unpublished article. AHEC programme. Stellenbosch: SURMEPI, Faculty of Health Science, Stellenbosch University.
- NEEDU (National Education Evaluation and Development Unit). 2012. *National Education Evaluation and Development Unit 2012 report*. Retrieved from <http://www.saga.org.za/docs/papers/2013/needu.pdf> [23 October 2015].
- Noddings, N. 2003. Is teaching a practice? *Journal of Philosophy of Education Society of Great Britain*, 37(2):241–251.
- Oliver, P. 2013. The conceptual range of a research study. *Understanding the research process*. London: Sage, 16–29.
- Ornstein, A.C. & Hunkins, F.P. 2004. *Curriculum: Foundations, principles and issues*. Fourth edition. New York: Pearson.
- Peters, R.S. 1966. *Ethics and education*. London: George Allen and Unwin.

- Peters, R.S. 1967. What is an educational process? In R.S. Peters (ed.). *The concept of education*. Routledge, 1–16. Retrieved from [http://libepl.um.ac.ir/parameters/libepl/filemanager/ebook/e1/vijeh nashr 14/The Concept of Education \(978-0415562539\).pdf](http://libepl.um.ac.ir/parameters/libepl/filemanager/ebook/e1/vijeh%20nashr%2014/The%20Concept%20of%20Education%20(978-0415562539).pdf) [23 June 2015].
- Polanyi, M. 1966. *The tacit dimension*. Chicago: University of Chicago Press.
- Raelin, J. 2007. Toward an epistemology of practice. *Academy of Management Learning and Education*, 6(4):495–519.
- Rancière, J. 1991. *The ignorant schoolmaster*. Stanford: Stanford University Press.
- Robinson, M. 2002. Teacher reforms in South Africa: Challenges, strategies and debates. *Prospects*, 32(3):289–299.
- Robinson, M. 2003. Teacher education policy in South Africa: The voice of teacher educators. *Journal of Education for Teaching*, 29(1):19–34.
- Roth, W.M. 2010. Learning in praxis, learning for praxis. In S. Billet (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 21–36.
- Ryle, G. 1945. Knowing how and knowing that: The Presidential Address. In *Proceedings of the Aristotelian Society*, 1–16. Retrieved from <http://www.jstor.org/stable/4544405> [8 January 2015].
- Saugstad, T. 2002. Educational theory and practice in an Aristotelian perspective. *Scandinavian Journal of Educational Research*, 46(4):373–390.
- Schatzki, T. 2001. Introduction: Practice theory. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 10–23.
- Schatzki, T. 2007. Introduction. *Human Affairs*, 17(2):97–100. Retrieved from <http://www.degruyter.com/view/j/humaff.2007.17.issue-2/v10023-007-0009-6/v10023-007-0009-6.xml> [21 April 2017].
- Schoenfeld, A.H. 1999. Looking toward the 21st century: Challenges of educational theory and practice. *Educational Researcher*, 28(7):3–14. Retrieved from <http://www.jstor.org/stable/1176136> [18 May 2016].
- Schulman, L.S. 1983. Autonomy and obligation-the remote control of teaching. In L. Schulman (ed.). *Handbook of teaching and policy*. New York, NY: Longman, 484–504.
- Smeyers, P. & Burbules, N.C. 2006. Education as initiation into practices. *Educational Theory*, 56(4):439–449.
- Spaull, N. 2013. *South Africa's education crisis: The quality of education in South Africa 1994–2011*. Centre for Development and Enterprise. Retrieved from <https://pdfs.semanticscholar.org/8284/240c243cbd0172ee1451486af141f3fd2e09.pdf> [17 March 2015].
- Stenbacka, C. 2001. Qualitative research requires quality concepts of its own. *Management Decision*, 39(7):551–556.

- SU (Stellenbosch University). 2013. *Stellenbosch University Institutional Intent and Strategy: 2013–2018*. Retrieved from [http://www.sun.ac.za/english/management/rector/Documents/Institutional Intent and Strategy 2013-2018.pdf](http://www.sun.ac.za/english/management/rector/Documents/Institutional%20Intent%20and%20Strategy%202013-2018.pdf) [23 March 2017].
- SUNCEP (Stellenbosch University Centre for Pedagogy). 2013. Rules of the Stellenbosch University Centre for Pedagogy (SUNCEP/SUNSEP), Faculty of Education, Stellenbosch University. Available on request.
- . SUNCEP (Stellenbosch University Centre for Pedagogy). 2018. Strategic Plan 2018 to 2022, Faculty of Education, Stellenbosch University. Available on request.
- Thomas, G. 1997. What's the use of theory ? *Harvard Educational Review*, 67(1):75–104.
- Timperley, H. 2008. Teacher professional learning and development. Educational Practices Series, 18. UNESCO International Bureau of Education. Retrieved from http://edu.aru.ac.th/childeddu/images/PDF/benjamaporn/EdPractices_18.pdf [21 January 2015].
- Turner, S. 2001. Throwing out the tacit rule book: Learning and practices. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 129–139.
- Van der Berg, S., Spaull, N., Wills, G., Gustafsson, M. & Kotze, J. 2016. *Identifying binding constraints in education*. Retrieved from http://resep.sun.ac.za/wp-content/uploads/2016/06/PSPPD_BICiE-email-01062016.pdf [20 September 2016].
- Waghid, Y. & Davids, N. 2017. *Philosophy and education as action-implications for teacher education*. Lanham, MD: Lexington Books.
- Webster-Wright, A. 2009. Reframing professional development through understanding authentic professional learning. *Review of Educational Research*, 79(2):702–739.
- Whan, M. 1986. On the nature of practice. *British Journal of Social Work*, 16(2):243–250. Retrieved from <http://www.jstor.org/stable/23705272> [22 July 2011].
- Zulkardi, 1999. How to design mathematics lessons based on the realistic approach? *RME, Realistic Mathematics Education*: 1–17. Retrieved from <http://eprints.unsri.ac.id/692/1/rme.html> [30 December 2010].



Addendum A: SWOT analysis form for mentoring

SUNCEP evaluation and mentoring instrument

SUNSEP evaluerings- en mentorskapinstrument

For completion by educator/*Vir voltooiing deur onderwyser*

SUNCEP COURSE	Course number			
SCHOOL	Principal			
School address	School tel no			
EDUCATOR	Cell no			
ID number	Email address			
Highest academic qualification	Highest professional qualification			
Subjects and grades you currently teach	Years of teaching subject			
MENTOR:	Cell no			
ID number	Email address			
Background: For completion by educator/ <i>Agtergrond: Vir voltooiing deur onderwyser</i>				
S. STRENGTHS (at school and personal) that help you to be a good teacher/ STERKPUNTE (by skool en persoonlik) wat help dat jy 'n goeie onderwyser kan wees	W. WEAKNESSES (at school and personal) that hinder you to be the best teacher you can be/ SWAKHEDE (by skool en persoonlik) wat verhoed dat jy jou beste as onderwyser kan lewer			
O. OPPORTUNITIES available and accessible for you to grow professionally/ GELEENTHEDE wat vir jou beskikbaar en toeganklik is om professioneel te groei	T. THREATS preventing you from delivering the curriculum effectively/ BEDREIGINGS wat jou verhoed om die kurrikulum effektief te onderrig.			
QUESTIONNAIRE/VRAELYS				
The assessment scale to be used in the following questionnaire:/ <i>Die assesseringskaal wat gebruik moet word vir die onderstaande vraelys :</i>				
1	2	3	4	5
No attempt made to achieve the set standard	Partly successful in attempts made to achieve the set standard	On a basic level successful in achieving the set standard	Completely successful in achieving the set standard	Extraordinary successful in achieving the set standard
<i>Geen poging aangewend om die</i>	<i>Gedeeltelik suksesvol in pogings om die</i>	<i>Op 'n basiese vlak suksesvol in die</i>	<i>Ten volle suksesvol in die bereiking van die gestelde maatstaf</i>	<i>Buitengewoon suksesvol in die</i>

<i>gestelde maatstaf te bereik nie</i>	<i>gestelde maatstaf te bereik</i>	<i>bereiking van die gestelde maatstaf</i>		<i>bereiking van die gestelde maatstaf</i>
FOR COMPLETION BY EDUCATOR VIR VOLTOOIING DEUR ONDERWYSER <div style="text-align: center;">  (THIS COLUMN) (HIERDIE KOLOM) </div>			FOR COMPLETION BY MENTOR VIR VOLTOOIING DEUR MENTOR <div style="text-align: center;">  (THIS COLUMN) (HIERDIE KOLOM) </div>	
1. SUBJECT KNOWLEDGE/VAKKENNIS				
1.1 Knows and fully understands the CAPS subject content that must be delivered/ <i>Ken en verstaan ten volle die KABV-vakinhoud wat onderrig moet word.</i>				
1	2	3	4	5
1.2 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>			Explanation by mentor/ <i>Verduideliking deur mentor</i>	
2. PEDAGOGICAL SKILLS/DIDAKTIESE VAARDIGHEDE				
2.1 Uses a variety of teaching strategies in class (to prevent monotony and to ensure differentiation and inclusion of learners with different types of abilities and intelligences)/ <i>Gebruik 'n verskeidenheid van onderrigstrategieë in die klas (ten einde eentonigheid te voorkom, asook om differensiasie en insluiting van leerders met verskillende vermoëns en tipes intelligensies in te sluit).</i>				
1	2	3	4	5
2.2 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>			Explanation by mentor/ <i>Verduideliking deur mentor</i>	
3. PLANNING/BEPLANNING				

3.1 Plans in place for learning to take place (functional year planner or work schedule with dates, activities and tasks, mark sheets, etc). Learners' workbooks reflect execution of planning/ <i>Bepanning is in plek vir leer om plaas te vind (funksionele jaarbeplanning of werkskedule met datums, aktiwiteite en take, puntestate, ens). Leerders se werkboeke weerspieël uitvoering van beplanning.</i>										
1	2	3	4	5		1	2	3	4	5
3.2 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>						Explanation by mentor/ <i>Verduideliking deur mentor</i>				
4. CLASSROOM MANAGEMENT/KLASKAMERBESTUUR										
4.1 Creates an environment in class which is conducive to teaching and learning (enthusiasm for subject, good general classroom management, punctuality, positive energy)/ <i>Skep 'n omgewing in die klas wat bevorderlik is vir onderrig en leer (entoesiasme vir vak, goeie algemene klaskamerbestuur, stiptelikheid, positiewe energie)</i>										
1	2	3	4	5		1	2	3	4	5
4.2 Knows the learners' names and their <i>context</i> (cognitive abilities, social and economic circumstances, as well as their barriers to learning)/ <i>Ken die leerders se name en hul konteks (kognitiewe vermoëns, sosiale en ekonomiese omstandighede, sowel as hulle hindernisse ten opsigte van leer).</i>										
1	2	3	4	5		1	2	3	4	5
4.3 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>						Explanation by mentor/ <i>Verduideliking deur mentor</i>				
5. TEACHING AND LEARNING/ONDERRIG EN LEER										
5.1 Uses a learner centred approach (learners are actively involved in activities and their own learning; not just listening passively or without comprehension writing down from the board)/ <i>Gebruik 'n leerdergesentreerde benadering (leerders aktief betrokke in aktiwiteite en hulle eie leer, sit nie net passief en luister of skryf, sonder begrip, van die bord af nie).</i>										
1	2	3	4	5		1	2	3	4	5
5.2 Uses cooperative learning in class (learners work in pairs or groups, they explain and also learn from one another)/ <i>Gebruik koöperatiewe leer in die klas (leerders werk in pare of groepe, hulle verduidelik en leer ook by mekaar).</i>										
1	2	3	4	5		1	2	3	4	5
5.3 Ensures that the content of the lessons is at the required level for the grade, but also provides for the different levels of learners/ <i>Verseker dat die inhoud van lesse op die verlangde vlak vir die graad is, maar maak ook voorsiening vir die verskillende vlakke van die leerders.</i>										
1	2	3	4	5		1	2	3	4	5

5.4 Treat learners with dignity, valuing their questions and answers/ <i>Tree menswaardig teenoor leerders op, respekteer hulle vrae en antwoorde.</i>										
1	2	3	4	5		1	2	3	4	5
5.5 Ensures that all learners are engaged and participate in class/ <i>Maak seker dat al die leerders betrokke is en deelneem in die klas.</i>										
1	2	3	4	5		1	2	3	4	5
5.6 Gives suitable follow-up tasks to learners after the lesson/ <i>Gee geskikte opvolgtake aan die leerders na die les.</i>										
1	2	3	4	5		1	2	3	4	5
5.7 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>						Explanation by mentor/ <i>Verduideliking deur mentor</i>				
6. ASSESSMENT/ASSESSERING										
6.1 Plans and does formative assessment activities to inform teaching practice (informal assessment of prior knowledge, level of progress, understanding, skills gained)/ <i>Beplan en doen formatiewe assesseringsaktiwiteite om onderrigpraktyk te bepaal (informele assessering van voorkennis, vorderingsvlak, begrip, vaardighede verwerf).</i>										
1	2	3	4	5		1	2	3	4	5
6.2 Provides appropriate educational support to learners who are willing, but fall behind or make slow progress/ <i>Voorsien geskikte opvoedkundige ondersteuning aan gewillige leerders wat agter raak of wat stadig vorder.</i>										
1	2	3	4	5		1	2	3	4	5
6.3 Provides appropriate educational support to learners who are quick to comprehend and make rapid progress/ <i>Voorsien geskikte opvoedkundige ondersteuning aan leerders wat gou snap en vinnig vorder.</i>										
1	2	3	4	5		1	2	3	4	5
6.4 Plans and executes summative activities formally to assess knowledge, comprehension and application of it/ <i>Beplan en doen summatiewe assesseringsaktiwiteite om leerders se kennis, begrip en toepassing daarvan formeel te assesser.</i>										
1	2	3	4	5		1	2	3	4	5
6.5 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>						Explanation by mentor/ <i>Verduideliking deur mentor</i>				
7. CONTINUOUS PROFESSIONAL LEARNING/VOORTDURENDE PROFESSIONELE LEER										

7.1 Use available resources to constantly improve own practice (SUNCEP material, different textbooks, internet, latest relevant documents and policies, good activities shared by knowledgeable colleagues)/ <i>Gebruik beskikbare hulpbronne om voortdurend eie praktyk te verbeter (SUNSEP-materiaal, verskillende handboeke, internet, nuutste relevante dokumente en beleidstukke, puik aktiwiteite wat kundiges deel).</i>										
1	2	3	4	5		1	2	3	4	5
7.2 Uses self-reflection better to own educational practice (evidence of reflection on lessons offered, what worked well, what must be changed, etc.)/ <i>Gebruik selfrefleksie om eie onderwyspraktyk te verbeter (bewyse van refleksie oor lesse wat aangebied is, wat het goed gewerk, wat moet verander word, ens.)</i>										
1	2	3	4	5		1	2	3	4	5
7.3 Uses tasks and assignments given in SUNCEP course to develop and grow professionally/ <i>Gebruik take en opdragte van SUNSEP-kursus om professioneel te leer en te groei.</i>										
1	2	3	4	5		1	2	3	4	5
7.4 Makes use of course contact sessions, school visits and on-line support of mentor to clear out uncertainties, ask for help, etc. (telephone, sms, emails and WhatsApp)/ <i>Maak gebruik van kursuskontakssessies, skoolbesoeke en aanlynondersteuning van mentor om vir hulp te vra, onsekerhede op te klaar, ens. (telefoon, sms, e-posse en WhatsApp).</i>										
1	2	3	4	5		1	2	3	4	5
7.5 Uses inputs and feedback from knowledgeable colleagues, CAs, subject heads and mentors to expand professional knowledge/ <i>Gebruik insette en terugvoer van kundige kollegas, vakadviseurs en mentors om professionele kennis uit te brei.</i>										
1	2	3	4	5		1	2	3	4	5
7.6 Explanation by teacher/ <i>Verduideliking deur onderwyser</i>						Explanation by mentor/ <i>Verduideliking deur mentor</i>				
8. GENERAL (Teachers: tick the applicable box)/ALGEMEEN (Onderwysers: merk die toepaslike blokkie)										
8.1 I understand that this course's face-2-face contact sessions, group sessions, classroom visits and on-line support all form part of the practice-based professional learning model followed by SUNCEP/ <i>Ek verstaan dat die kursus se kontakssessies, groepsessies, klaskamerbesoeke en aanlynondersteuning alles deel vorm van die praktykgebaseerde model tot professional groei wat deur SUNSEP gevolg word.</i>									Yes/ <i>Ja</i>	No/ <i>Nee</i>
8.2 I understand that the information supplied in this document is confidential and will be treated as such. Names of teachers and schools will not be mentioned in any public report or research										

publication./Ek verstaan dat die inligting in hierdie dokument verskaf vertroulik is en as sodanig behandel sal word. Name van onderwysers en skole sal nie in enige openbare verslag of navorsingspublikasies genoem word nie.	Yes/Ja	No/Nee
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9. ASPECTS WHERE SUPPORT IS NEEDED (Tick the identified number):

ASPEKTE WAAR ONDERSTEUNING NODIG IS (Merk die betrokke nommer):

Teacher / Onderwyser					Mentor				
1.	2.	3.	4.1	4.2	1.	2.	3.	4.1	4.2
5.1	5.2	5.3	5.4	5.5	5.1	5.2	5.3	5.4	5.5
5.6	6.1	6.2	6.3	6.4	5.5	6.1	6.2	6.3	6.4
7.1	7.2	7.3	7.4	7.5	7.1	7.2	7.3	7.4	7.5

10. AGREED UPON ACTION PLANS BY TEACHER AND MENTOR AFTER DISCUSSION OF THE ABOVE

OOREENGEKOME AKSIEPLANNE VAN ONDERWYSER EN MENTOR NA BOVERMELDE BESPREEK IS:

11. REFLECTION OF TEACHER ON THE MENTORING PROCESS/REFLEKSIE VAN DIE ONDERWYSER OOR DIE MENTORPROSES

11.1 Give examples of support you received from your mentor that impacted positively on your teaching practice.
Verskaf voorbeelde van ondersteuning vanaf u mentor wat 'n positiewe impak op u onderwyspraktik gehad het.

11.2 Give examples, with possible reasons, of how mentoring (in areas that you jointly identified as needs) failed to make a difference to your teaching practice/*Verskaf voorbeelde met moontlike redes van hoe mentorskap gefaal het om 'n verskil in u onderwyspraktik te maak.*

11.3: In hindsight, can you think of mentoring strategies that would have helped you to be a more effective teacher?/*Terugskouend, kan u aan mentorstrategieë dink wat u sou gehelp het om 'n effektiewer onderwyser te wees?*

12. REFLECTION OF THE MENTOR ON THE MENTORING PROCESS/REFLEKSIE OP DIE MENTOR OOR DIE MENTORPROSES

12.1 Give examples of how the support you gave to this teacher impacted positively on his/her teaching practice.

Verskaf voorbeelde van hoe u ondersteuning aan hierdie onderwyser 'n positiewe impak op sy/haar onderwyspraktyk gehad het.

12.2 Give examples, with reasons, of how your mentoring (in areas you jointly identified as needs) failed to make a difference to this teacher's practice./*Verskaf voorbeelde met moontlike redes van hoe u mentorskap gefaal het om 'n verskil in hierdie onderwyser se onderwyspraktyk te maak.*

12.3 In hindsight, can you think of strategies that would have helped you to be a more effective mentor to this teacher?/*Terugskouend, kan u aan strategieë dink wat u sou gehelp het om 'n beter mentor vir hierdie onderwyser te wees?*

Addendum B: Example of a practice-based assignment

ASSIGNMENT

REALISTIC MATHEMATICS AND GUIDED RE-INVENTION

This assignment focuses on the learning theory called REALISTIC MATHEMATICS EDUCATION (RME) and its associated instructional theory called GUIDED RE-INVENTION. After the completion of this assignment, you should have a deep and systematic understanding of this learning and instructional theory on a theoretical and practical level.

READINGS FOR ASSIGNMENT

REALISTIC MATHEMATICS AND GUIDED RE-INVENTION

In order for you to complete the assignment, you would have to familiarise yourself with what is REALISTIC MATHEMATICS EDUCATION, GUIDED RE-INVENTION and the use EXAMPLES and NON-EXAMPLES in the teaching of Mathematics using guided re-invention as an instructional theory. Please see readings in each folder.

- READINGS ON REALISTIC MATHEMATICS EDUCATION
- READINGS ON GUIDED RE-INVENTION
- READINGS ON EXAMPLES AND NON-EXAMPLES

INSTRUCTIONS FOR THE ASSIGNMENT

REALISTIC MATHEMATICS AND GUIDED RE-INVENTION

1. Develop a lesson(s) to teach any topic in number patterns to your class through guided re-invention. You could produce more than one lesson plan, but one should be sufficient.
2. Show in your lesson plan(s) the different activities you would use for each phase of guided re-invention.
3. Create the activities, where applicable, that you would use in each phase, highlighting the use of how you would use examples and non-examples in your teaching.
4. Teach the lesson that you have developed and most importantly REFLECT, using the reflection section at the bottom of your lesson plan sheet, on how YOU and the LEARNERS experienced the lesson.
5. Please provide evidence that you taught the lesson(s) by providing photographic evidence of the lesson in action, and submitted at least five examples of the learners' work conducted during the lesson.
6. Use the rubric ([click here](#)) to ensure that you covered all the requirements of the assignment.

7. Your assignment due date is 11 July 2016, during our next contact session.
8. Please do not forget to write your name and, most importantly, sign the plagiarism statement on the assignment cover page.

RUBRIC FOR LESSON PLAN BASED ON GUIDED-REINVENTION			
	10–7 marks	6–4 marks	3–1 marks
Orientation phase of the learning material	Activities are on a very high standard and fully appropriate to introduce the new concept(s)	Activities are on a good standard and appropriate to introduce the new concept(s)	Activities are on standard and appropriate to introduce the new concept(s)
	Activities are fully appropriate to recall the thinking schemas that are needed	Activities are appropriate to recall the thinking schemas that are needed	Activities are appropriate to recall the thinking schemas that are needed, but not very effective .
	Activities are fully appropriate to give motivation to the learners	Activities are appropriate to give motivation to the learners	Activities are appropriate to give motivation to the learners, but not very effective
Sorting phase of the learning material	Activities included excellent examples and non-examples	Activities included fairly good examples and non-examples	Activities do not include examples and non-examples
Abstraction phase of the learning material	Activities included excellent examples and non-examples	Activities included fairly good examples and non-examples	Activities do not include examples and non-examples
Explication phase of the learning material	Activities are excellent, effective and help to put the new concept(s) into words	Activities are effective and help to put the new concept(s) into words	Activities are helping to put the new concept(s) into words
Practice and training phase of the learning material	Activities are excellent and on a very high standard to help consolidating the new concept(s) and prepare learners for external assessment . Activities are assessing ALL FOUR COGNITIVE LEVELS : Knowledge; Routine procedure ; Complex procedure and Problem solving	Activities are on standard help consolidating the new concept(s). Activities are very basic and are assessing only TWO COGNITIVE LEVELS :	Activities are on standard and not of much help to consolidate the new concept(s). Activities are very basic and are assessing only routine procedures
Mathematical correctness and standard of the material	All the material used is mathematically correct and of a very high standard	Most material used is mathematically correct and of a good standard	Some of the material used is mathematically correct and on an average standard
How original is lesson plan activities?	All material used in lesson plan is original (not used from SUNCEP material)	Most material used in lesson plan is original (not only from SUNCEP)	All material used in lesson is from SUNCEP material
Formal Assessment task(s): e.g Test on topic(s) ; Assignment on topic; Assessment of this topic(s) in the examination paper	Assessment task(s) is completely comprehensive . More than one task was used to ensure learners are exposed to all types of questions and are assessing ALL FOUR cognitive levels: Knowledge, Routine procedures , Complex procedures and Problem solving	Assessment task(s) is/are fairly comprehensive . More than one task was used to ensure learners are exposed to all types of questions and are assessing all/ only two cognitive levels	Assessment task(s) is/are not comprehensive . Only one task is used to assess learners and it only assesses knowledge and routine procedures of cognitive levels

Use of ICT/Visualisation tools (BONUS MARKS, SUBMIT ON CD IF NEED BE)	ICT/Visualisation tools are effective . Teacher used different tools. Activities are used by teacher and are of such a nature so that learners can be actively involved in the learning process	ICT/Visualisation tools are effective . Teacher used different tools. Activities will only be used by teacher and learners are not actively involved in the learning process	No visualisation/ICT is used. Teacher will be doing the explanation by examples and then exercises are given
TOTAL			
	80		

Lesson plan form for practice-based assignment

Date:	Teacher:		Class:		
Purpose of the lesson					
What must be done to prepare the learner for this purpose?					
Learning material for the lesson.					
Activity	Orientation phase	Sorting phase	Abstraction phase	Explication phase	Practice and training phase
Specification of learning material for this activity					
Organisation of the activity (teaching strategy)					
Time allocated					
What else do I need?					

Assessment of acitivity					
Reflection on the lesson					

Addendum C: Interview consent form for research participants



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CONSENT TO PARTICIPATE IN RESEARCH

ON BRIDGING THE GAP BETWEEN THEORY AND PRACTICE: A CONCEPTUAL ANALYSIS OF PRACTICE IN RELATION TO A TEACHER PROFESSIONAL LEARNING PROGRAMME AT STELLENBOSCH UNIVERSITY

You are requested to participate in a research study conducted by Ramesh Jeram from the Department of Education Policy Studies at Stellenbosch University. The results of the research will contribute to the fulfilment of a PhD Research Thesis.

You were selected as a possible participant in this study because you were involved in Teacher Professional Learning activities during the period 2013-2015.

1. PURPOSE OF THE STUDY

The purpose of this study is to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning by analysing and interpreting the theoretical and philosophical dimensions of practice theory. It will also explore the influence it could have on teacher professional learning within a South African context and the implications it could have on teacher professional learning policies in South Africa.

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to participate in an individual interview with the researcher at a venue convenient to yourself.

The interview schedule containing the interview questions will be made available to you beforehand. The duration of the interview will be between 1 and 1.5 hours.

Due to the requirements of the study this interview will be recorded with a voice recorder, but only with your permission.

3. POTENTIAL RISKS AND DISCOMFORTS

There is no physical threat by volunteering to participate in this study. Participants will be responding to the interview questions in a professional capacity, therefore there is no risk for discomfort. All experiences shared during the interview will be gathered with respect for the participant's dignity. The researcher will strive to remain as subjective as possible during the data construction.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The interviewee could gain professional insight and reflection into the influence/impact of the practice-based approach on their professional development. Findings and feedback can be made available to the participants should they require this information.

The study is significant to society as it aims to conceptualise an understanding of what is meant by a practice-based approach to teacher professional learning. The findings and recommendations made as a result of this study are significant to the teacher professional development sector because it will provide a conceptual framework for teacher professional learning activities and the implications it could have in policy-making within the teacher professional learning arena.

5. PAYMENT FOR PARTICIPATION

Involvement in this study comes without remuneration as the participants will participate voluntarily.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be linked to you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of removal of identifying details wherever required. The data collected during the interview will be safeguarded in a research file. The data will remain in a secure file and will only be seen and used by the researcher and the research supervisor.

The interview recording and identifying details will not appear anywhere in the research report. The participant has the right to request to view the transcripts of the recordings.

7. PARTICIPATION AND WITHDRAWAL

Participation in this study is completely voluntary. You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without any consequences at all. You may also refuse to respond to any questions you don't wish to respond to and still remain in the study. The researcher may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF RESEARCHER

If you have any questions or concerns about the research, please contact: Principal Investigator: Ramesh Jeram (021 697 0947 or 0722555272) or on ramesh@sun.ac.za.

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

Research Supervisor: Dr Nuraan Davids (021 808-2877) nur@sun.ac.za

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Ramesh Jeram in English or Afrikaans and I am in command of this language. I was given the opportunity to ask questions and these questions were answered to him to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the participant*] and/or [his/her] representative _____ [*name of the representative*]. [He/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in English and no translator was used.

Signature of Investigator

Date

Addendum D: Interview schedule

INTERVIEW GUIDE (Afrikaans translations of each question in bold and italics)

GENERAL INFORMATION

1. What are your current qualifications as a teacher?

Wat is jou huidige kwalifikasies as 'n onderwyser?

2. How long have you been teaching?

Hoe lank is jy al in die onderwys?

3. As a teacher, how important is professional development to you?

As 'n onderwyser, hoe belangrik is professionele ontwikkeling vir jou?

4. Have you been on professional development programmes?

Was jy al ooit op 'n professionele ontwikkelingsprogram?

5. Describe some of the professional development programmes you have attended.

Beskryf van die professionele programme wat jy bygewoon het.

6. Describe how any of these programmes impacted on your teaching.

Beskryf watter impak enige een van die programme op jou onderrig gehad het.

7. What are your opinions on the professional development of teachers? Is it a necessity?

Wat is jou opinie aangaande professionele ontwikkeliking van onderwysers. Is dit nodig of belangrik?

8. What attracts you to particular professional development programmes? Or, what would motivate you to attend a professional development programme?

Wat trek jou aan om 'n professionele ontwikkelingsprogram vir onderwysers by te woon? Of, wat motiveer jou om 'n professionele ontwikkelingsprogram by te woon?

SUNCEP AHEC PROGRAMME

9. What is your understanding of the SUNCEP AHEC PROGRAMME?

Hoe verstaan jy die SUNSEP/AHEC-PROGRAM?

10. How does this teacher professional learning programme compare to other teacher professional learning programmes in which you were a participant?

Hoe vergelyk hierdie professionele ontwikkelingsprogram, met ander programme wat jy bygewoon het?

11. Are there any differences or similarities to other training programmes you were involved in?

Hoe eenders of verskillend was ander programme van hierdie program?

Is daar enige verskille of ooreenkomste ten opsigte van ander programme waarby jy betrokke was?

12. Did the training sessions address any of your content and pedagogical needs within the context of your own teaching? If yes, what specific content/pedagogical needs were addressed?

Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, binne die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes is aangespreek?

13. Have you been able to implement the training practically in your classroom? If yes, what specifically? If no, what do you think has prevented you from doing so?

Was dit moontlik om die opleiding prakties in jou klas te implementeer? Indien ja, wat spesifiek het jy geïmplementeer? Indien nee, wat het jou verhoed om dit te implementeer?

14. How would you describe the role of your mentor? Did the mentor offer any value in relation to understanding the programme content, or in implementing the programme in your classroom?

Hoe sal jy die rol van jou mentor beskryf? Het die mentor enige waarde bygevoeg in terme van hoe u die programinhoud verstaan of om die programme in jou klas te implementeer?

15. Explain how important were the mentoring sessions, both on-site and in cluster sessions.

Verduidelik hoe belangrik die mentorsessies, beide op skool en die kluster sessies, was?

16. Do you self-reflect on your teaching? If, yes, what impact has it had on your classroom teaching and learning? If no, what prevents you from doing so?

Reflekteer jy op jou eie onderrig? Indien ja, watter impak het dit op jou onderrig en leer? Indien nie, wat verhoed jou om dit te doen?

17. Do you share any of your teaching experiences with your peers? Do you find this difficult to do?

Deel jy jou onderrigervaringe met jou kollegas? Is dit moeilik om dit met jou kollegas te doen?

18. Do you believe that your teaching is in need of improvement? Elaborate.

Voel jy dat daar 'n behoefte is om jou onderrig te verbeter? Brei uit.

19. What resources do you use or consult if you wish to improve your teaching?

Watter bronne gebruik jy of raadpleeg jy om jou onderrig te verbeter?

20. Describe, if any, what impact this training programme has made on how you teach, and the way your learners learn in the classroom?

Beskryf, indien enige, watter impak hierdie opleidingsprogram op jou onderrig en die wyse hoe jy jou studente in jou klaskamer leer, gehad het.

21. The approach used in this training programme is called the practice-based approach to teacher professional learning. Now that you have been through this training programme using this approach, what is your understanding of this approach and what were your experiences in the context of where you are teaching?

Die benadering wat gebruik word binne hierdie opleidingsprogram word die praktyk-gebaseerde benadering vir professionele onderwysleer genoem. As 'n deelnemer aan hierdie program, wat verstaan jy onder hierdie benadering en wat was jou ervaring binne die konteks waarin jy onderrig?

22. Could you offer any suggestions that may improve this approach?

Kan jy enige voorstelle doen om hierdie benadering te verbeter?

Addendum E: Interview transcripts

TEACHER 1

GENERAL INFORMATION

RJ: Wat is jou huidige kwalifikasies as 'n onderwyser?

T1: Drie jaar diploma + ACE kursus in wiskunde, REQV14.

RJ: Hoe lank is jy in die onderwys?

T1: 20 jaar.

RJ: As 'n onderwyser, hoe belangrik is professionele ontwikkeling vir jou?

T1: Baie belangrik ... want ek gee wiskunde en as gevolg van die vlak van wiskunde in ons skole, soek ons altyd beter wyses om dit beter aan te bied sodat kinders beter kan vaar ... daai passie wat ek het vir wiskunde moet opgaan ... ek soek altyd 'n beter manier om die werk aan te bied.

RJ: So, jy soek aanhoudend wyses om jou praktyk te verander sodat die kinders kan beter leer?

T1: Ja, ... net so.

RJ: Was jy al ooit deel van 'n professionele ontwikkelingsprogram? Indien ja, beskryf sommige van die professionele programme wat jy bygewoon het.

T1: Ek het begin by CTLI ... toe die ACE-kursus gedoen en voor die AHEC, het ek die rekenaar een gedoen in Worcester ... 'n wiskunde-rekenaarkursus, spesifiek vir FET ... die Casme program. Casme was interessant, baie tegnologie-gedrewe, hoe jy sekere programme kan gebruik om sekere wiskunde T1delings aan te bied, en gewoonlik as jy opleidingsessies bywoon van die departement, is dit sommer 'n middag, dit is te kort, maar Came was 'n hele week en hulle het jou byvoorbeeld GEOGEBRA gewys en wat jy alles kan doen. Ons het dit fisies gedoen, maar as jy net in die middag daar is, wys iemand jou te vining en dan moet jy maar gaan sukkel in die klas en daar is nie tyd in die klas nie.

RJ: Beskryf watter impak enige een van die programme op jou onderrig gehad het.

T1: Ek voel dit gee my weer lus, want ek raak moedeloos en dit is hoekom ek gedurig vir my inskryf in kursusse.

RJ: Wat is jou opinie oor professionele ontwikkeliking van onderwysers. Is dit nodig of belangrik? FORGOT TO ASK BUT HAS INDICATED IN QUESTION ABOVE THAT IT IS PERSONALLY IMPORTANT.

RJ: Wat trek jou aan om 'n professionele ontwikkelingsprogram vir onderwysers by te woon? Of, wat motiveer jou om 'n professionele ontwikkelingsprogram by te woon?

T1: Leerders. Alles gaan net om die wiskunde beter te onderrig en bevorder. Ek hou daarvan om beter goed te leer wat met die vak gedoen is.

SUNCEP AHÊC PROGRAMME

RJ: Hoe verstaan jy die SUNSEP/AHÊC-PROGRAM?

T1: As ek die program bywoon, kan ek dan daai T1delings beter aanbied en leerders beter laat vaar. As ek moet eerlik wees, daar was nie net die FET op die brief nie, dit was ook die GET, maar datums het *ge-clash* – so dit was 'n jammerte.

RJ: Jy soek altyd geleenthede om die vak meer interessant te maak vir die kinders en leer beter strategieë.

T1: Ja, ja, kan ek maar aan praat?

RJ: Natuurlik.

T1: Dan voel ek dat 'n sekere gedeelte van my kennis kan verbeter, en dan, as ek dit verbeter, dan sal ek dit beter kan oordra. Programme gee vir my geleenthede om my kennis te versterk.

RJ: Hoe vergelyk hierdie professionele ontwikkelingsprogram, met ander programme wat jy bygewoon het? Hoe eenders of verskillend was ander programme in vergelyking met die program?

T1: Man, ek dink ek sal sê dat dit baie meer *hands-on* is...jy doen dit *actually*. By sommige programme is daar persone wat net heeltyd praat en jy luister ... jy is *actually* besig, jy is amper die leerder nou, en jy moet dit doen, as jy sukkel dan is daar die fasiliteerder wat jou kan help. Dit doen iets aan 'n persoon se *confidence*.

RJ: Die *practical hands-on approach* het jou meer selfvertroue gegee om die afdeling aan te bied?

T1: Yes.

RJ: Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, binne-in die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes aangespreek?

T1: Ja, jy kom in kontak met ander opvoeders, ons gesels, wat doen in hierdie geval en daai geval, so jy kry daai geleentheid om saam met mekaar te leer. Dan dink jy, kom ons probeer, want dit klink soos 'n goeie idee. In die kwartaal het ons 'n *meeting* gehad, want daar is bekommernis oor die kinders se uitslae. Toe dink ons dat ons moet begin saamwerk.

RJ: Hierdie soort opleiding gee mense die geleentheid om bymekaar te kom en hopelik 'n *community of practice* op te bou.

T1: En nadat jy die kursus klaargemaak het, nog steeds daai verbintenis het en daai vrymoedigheid het om met ander mense te skakel.

T1: Ja, ek dink aan die waarskynlikheid. Ek het vir hulle fisies dit laat doen, waar jy gewoonlik net meestal verduidelik, maar nou het ek vir hulle hulle eie kaarte laat maak, ons het speletjies gespeel en *eventually*, in plaas van ek die reël vir hulle gee, het hulle dit self ontdek, en voorheen het ek nie die selfvertroue gehad om dit te doen nie.

RJ: Hoe sal jy die rol van jou mentor beskryf? Het die mentor enige waarde bygevoeg in terme van hoe die programinhoud verstaan of om die programme in jou klas te implementeer?

T1: Ja, ons het bymekaar gekom en sy het my besoek. Maar daar moet meer kontak wees ... dit is vir my te min. Ek bedoel dit is iets wat rêrig beter beplan moet word. Dit was somtyds moeilik om mekaar te vind as gevolg van ons *schedules* ... dan ook die area waar ons bly ... want ek moes eendag uitgery het na 'n *meeting* ... wat oukei is, maar dit was ver ... en daar was nooit 'n geskikte tyd om die les aan te bied nie.

RJ: So, die rol van die mentor kan versterk word met meer kontakssessies? In terme van dit, verduidelik hoe belangrik die mentorsessies, beide op skool en die *cluster*-sessies, was.

T1: Man, dit was oukei, maar soos ek sê dit is te min tyd om rêrig waarde by te voeg en self iets uit te kry.

RJ: Reflekteer jy op jou eie onderrig? Indien ja, watter impak het dit op jou onderrig en leer? Indien nie, wat verhoed jou om dit te doen?

T1: Yes, ek probeer rêrig ... elke jaar, ek doen nooit dieselfde take nie ... ek probeer om dinge te verander.

RJ: Deel jy jou onderrigervaringe met jou kollegas? Is dit moeilik om dit met jou kollegas te doen?

T1: Ek het graag gedeel met veral die jong onderwysers ... ek voel ek moet dit deel, want jy moet hulle aanmoedig om selfvertroue te hê. Maar, omdat ek alleen by FET is, moet ek reflekteer hoe ek myself beskikbaar kan stel vir ander grade. Jy kan so gou gewoond raak aan 'n sekere leerder ... ons raak ongeduldig, maar as jy 'n liefde het, sal jy nie *mind* nie.

RJ: Voel jy dat jou onderrig verbeter kan word? Verduidelik. Voel jy dat daar 'n behoefte is om jou onderrig te verbeter? Verduidelik.

T1: Altyd, altyd, ten spyte van die 20 jaar.

RJ: Watter bronne gebruik jy of raadpleeg jy om jou onderrig te verbeter?

T1: Dit is boeke, internet, altyd kyk vir iets omdat ek redelik toegang het na die internet, altyd op soek vir iets interessant vir die kinders.

RJ: Beskryf, indien wel, watter impak hierdie opleidingsprogram, die SUNCEP/AHEC-program, op jou onderrig en die wyse hoe jou studente in jou klaskamer leer, gehad het.

T1: Onderrig ... ek voel, ek het meer selfvertroue, eerlikwaar, want ek kan somtyds baie twyfel, om iets aan te bied ... meer selfvertroue, en ek het besef jy moet die kinders meer betrokke maak ... hulle is te passief, en jy verloor hulle as jy heeltyd wil alleen praat ... dit moet prakties wees.

RJ: As ek kyk na die program, daar was kontakssessies, *mentoring* en *clusters*. Die benadering wat gebruik word binne hierdie opleidingsprogram word die praktyk-gebaseerde benadering vir professionele onderwys leer genoem. As 'n deelnemer in hierdie program, wat verstaan jy onder hierdie benadering en wat was jou ervaring binne die konteks waarin jy onderrig?

T1: Ja, dit spreek aan wat jy kan doen, hoe jy dit kan doen ... en selfvetroue en die idees was prakties. Ek het rêrig daar besef as jy dit *practice*, of 'n kind dit laat doen, sal jy dit beter leer. Daai is vir my die grootste ding, en dat ek meer selfvertroue het.

RJ: Kan jy enige voorstelle doen hoe hierdie benadering verbeter kan word?

T1: Langer of meer mentorsessies. Maar as ek eerlik wil wees, daar was 'n vorm ingevul, maar as gevolg van te min tyd, daar moet meer tyd wees vir meer interaksie as ons bymekaar uitkom. Die idee is 'n goeie een, maar meer tyd. Skep meer geleenthede sodat ons bymekaar kan uitkom, maar neem kennis van die afstande wat mense moet ry.

TEACHER 2

GENERAL INFORMATION

RJ: Wat is jou huidige kwalifikasies as 'n onderwyser?

T2: Ek het 'n driejaar-onderwysdiploma, dan het ek die ACE in Wiskunde ... dit was vir 150 onderwysers in die gebied gewees en die kursus was verniet.

RJ: Hoe lank is jy in die onderwys?

T2: Ek het 1990 begin skool hou. My eerste agt jaar was by Vredendal Sekondêr, toe het ek my in 1998 by Maskam Primêr kom aanmeld.

RJ: So, jy het 'n bietjie hoërskoolondervinding ook?

T2: Ja, ek het.

RJ: As 'n onderwyser, hoe belangrik is professionele ontwikkeling vir jou?

T2: Vir my is dit baie belangrik dat 'n mens voortdurend ontwikkel, veral in die onderwys-opset kan jy nie stilsta nie ... voortdurend jouself opskerp ... skryf in vir kursusse om jou self te verbeter in die professie.

RJ: Was jy al ooit op 'n professionele ontwikkelingsprogram?

T2: Ja, ek was op al so baie dat ek nie eers amper half kan onthou nie. Behalwe dit wat julle aangebied het, was daar ook ander wat ek bygewoon het.

RJ: Ek wil graag hoor van daai ander programme. Kan jy onthou oor een of twee?

T2: Ek was op baie intermediêre fase-kursusse, veral Wiskunde, en ook senior-fase-kursusse bygewoon. Dit was die programme wat André Lamprecht-hulle aangebied het, ook by CTLI programme bygewoon en dan natuurlik die AHEC-program.

RJ: Beskryf sekere van die professionele programme wat jy bygewoon het. Wat was hulle benadering gewees? Hoe het hulle dit gedoen?

T2: Wat was die een se naam wat Christa-hulle aangebied het? Ek kan nie onthou nie, maar die benadering was interessant. Dit was heel verskillend van wat ons in opgelei is. Die benadering wat hulle daar gedoen het, was waar ons self ontdek, en natuurlik die manier hoe jy dit in die klas kan aanbied ... verskil nou hemelsbreed van hoe ons op kollege opgelei is. Daai was vir my interessant ... die manier hoe ons dit in die skool kon aanbied. En dan was daar die IWWOUS-projek gewees wat ook 'n interessante benadering gehad het, waar die kinders self die kennis ontdek. Die aanbieding het ook hemelsbreed verskil met wat ons op kollege gesien het.

RJ: Dit is interessant dat jy noem dat die benadering op die kursus en dit wat julle op kollege gekry het, verskillend was. Wat was eintlik verskillend?

T2: Die aktiwiteite wat aan jou gegee was, was waar jy self ontdek. Jy was nie gevoer nie. Jy het ook nou op 'n hoër ouderdom weer goed aangeleer in Wiskunde wat jy nooit onderrig in ontvang het nie. Daardie metode was vir my belangrik en dit het my baie gebaat, veral as jy dit nou toepas met jou kinders in jou klas, kan jy ook sien die wat nou vinnig ontdek, onthou dit baie beter, teenoor wanneer jy nou so hulle aanmekaar voer.

RJ: Beskryf watter impak enige een van die programme op jou onderrig gehad het.

T2: Wel, om die waarheid te sê, na elke kursus wat ek bygewoon het, het ek maar altyd meer positief gebly, meer positief teruggekom en my werk baie geniet. My aanbiedings het verander, jy kan ook sien dat jou uitslag verbeter as jy daardie metodes gebruik. Soos ek sê, dit het vir my baie meer positief gemaak, en jy geniet jou werk meer en jy is meer opgewonde wanneer jy in die klaskamer kom en daai is belangrik.

RJ: So, eintlik kan jy sê dat dit het jou praktyk verander?

T2: Beslis, ja.

RJ: Wat is jou opinie oor professionele ontwikkeliking van onderwysers? Is dit nodig of belangrik?

T2: Beslis, ja. Dit is beslis baie nodig. Jy kry mos daai onderwysers wat nou net terugsit en geld wil verdien. So, ek dink dit is baie belangrik. Ek is lief daarvoor. As daar kursusse aangebied word, skryf ek my in, want aan die einde van die dag, help dit maar net vir jou.

RJ: Wat trek jou aan om 'n professionele ontwikkelingsprogram vir onderwysers by te woon? Of, wat motiveer jou om 'n professionele ontwikkelingsprogram by te woon?

T2: Wat ek al agtergekom het, is wanneer daar ander onderwysers is wat ook hierdie program bywoon, leer ons baie van mekaar en ons het al ook sulke groot vriendskapsbande opgebou. Ons kontak mekaar gereeld, jy leer by hulle en ons deel met mekaar. So, ons kontak mekaar gereeld as hulle miskien van my goed nodig het, of ek van hulle. Ons deel met mekaar, ons het 'n goeie vriendskapband opgebou en so leer ons van mekaar.

RJ: So, dis eintlik wat ons noem *networking*, die *social learning*?

T2: Ja, dit was nogal belangrik.

SUNCEP AHEC PROGRAMME

RJ: Hoe verstaan jy die SUNSEP AHEC-PROGRAM?

T2: Dit was maar net 'n program vir onderwysers om hulle te verbeter ten opsigte van wat hulle doen, die verskillende metodes wat hulle jou leer om aan te bied. So, dit is iets wat ek by baat gevind het.

RJ: Hoe vergelyk hierdie SUNSEP AHEC-PROGRAM professionele ontwikkelingsprogram met ander programme wat jy bygewoon het?

T2: Daar was nogal 'n redelike groot verskil, as ek nou dink daaraan. Die benadering is 'n bietjie anders...

RJ: Dit is eintlik die volgende vraag: Hoe eenders of verskillend was ander programme teenoor hierdie program?

T2: Vir my was dit 'n groot verskil, veral met die tipe aktiwiteite wat aan jou gegee word wat jy moet gaan toepas. En dan natuurlik met die ander opvoeders *interact*. Jy moet self aan hulle verduidelik ... die manier hoe ons met mekaar kommunikeer ... verskillende maniere en bewus maak hoe om 'n probleem aan te pak. Dit is nie net die een vervelige metode nie, want jy hoor van die ander onderwysers van ander metodes. So, daar word gereeld geleentheid gebied om te verduidelik hoe jy dit verstaan ... hoe ander onderwysers dit doen. Met die ander kursusse is daar maar net die een spesifieke metode wat hulle toepas, daar was net een maniertjie van hoe jy dit moet aanbied en oordra na jou klas.

RJ: So, het dit dan jou spesifieke konteks aangespreek dan, die kursus? Jou onderigkonteks, het dit dan aangespreek, die kursus?

T2: Ja, ja, dit het beslis ja. Dit het my manier van aanbied verander, ek het daai vervelige metode van aanbied verander. Ek het meer belangstel in PowerPoint *presentations*. jou leerders geniet dit meer as wat jy nou net by 'n bord staan.

RJ: Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, binne die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes is aangespreek?

T2: Daar is baie van die inhoud wat jy nie so lekker verstaan nie. Nie so veel dat jy nie die inhoud verstaan nie, maar agterna besef jy dat jy dit beter kon aanbied ... meer duidelikheid, want baie keer is daar konsepte wat 'n bietjie vaag is vir jou. Hier by die kursusse word dit vir jou duidelik gemaak. Nou kan jy dit beter gaan aanbied. En dan natuurlik, as jy gaan kyk na die moeilikheidsvlak, waar jy in die verlede eenvoudig iets aangepak het vir die leerders ... nou is jy meer waaghalsig, en kan bietjie meer moeiliker en dieper in die probleemoplossing ingaan. Jou vertrouwe raak net bietjie beter.

RJ: Was dit moontlik om die opleiding prakties in jou klas te implementeer? Indien ja, wat spesifiek het jy geïmplementeer? Indien nee, wat het jou verhoed om dit te implementeer?

T2: Iets wat ek baie geniet het, was die kongruensie wat julle aangebied het. Daai was vir my 'n baie fantastiese metode om kongruensie aan te bied. Die leerders kan die gevalle van kongruensie baie beter onthou en toepas wanneer dit voorkom in 'n toets of vraestel ... baie beter verstaan wat ons daar aangebied het. Dan ook transformasies, die manier hoe ons dit daar so gedoen het, het vir my ook baie gehelp toe ons dit hier kom toepas het. In die verlede het jy maar net vinning oor die goed gehardloop ... blitsvinnig oor dit gegaan, maar as ons nou hierdie metode gebruik wat daar aangebied is, verstaan die kinders dit beter en hulle beantwoord die vrae ook beter. Die tipe manier van hoe ek ook die vraestel anders opstel, beantwoord hulle nou die vraag baie beter.

RJ: So, wat ek eintlik hoor, is dit die aktiwiteite waaraan jy blootgestel is in die opleiding, wat jou meer selfvertroue gegee en sodoende die kinders ook meer selfvertroue gegee het?

T2: Ja, hulle snap eintlik beter, en dan kan hulle natuurlik baie beter terugvoer gee in die toetse.

RJ: Jy sê dit as gevolg van die praktiese benadering van jou.

T2: Dis korrek ja, om dit prakties te doen.

RJ: Hoe sal jy die rol van jou mentor beskryf? Het die mentor enige waarde bygevoeg in terme van hoe jy die programinhoud verstaan of om die programme in jou klas te implementeer?

T2: Ja-nee, hy het 'n goeie rol gespeel, die tye wat hy vir my kom besoek het, kon ons baie lekker gesels oor die vak. Daar waar ek in die klas besig was, het hy vir my baie ondersteun ... watter manier ek die goed aangebied het, en dan kom hy met sy metode. Baie aktief betrokke in die lesse. Ek het dit geniet om uit iemand anders se mond goedjies te hoor.

RJ: So, jy sê dit was positief gewees?

T2: Ja, dit was positief.

RJ: Verduidelik hoe belangrik die mentorsessies, beide op skool en die klustersessies, was.

T2: Dit was ook belangrik, veral met die *clusters*, waar ons weer bymekaar kon kom om te kan bespreek wat belangrik is en hoe dit kan toegepas word. Die aktiwiteite wat hulle by die *cluster* aangebied het, was interessant. Jy voel nie jy mors jou tyd nie. As jy terugkom, kom jy met nuwe moed. Jy kan nou weer gaan toepas wat jy by ander kollegas geleer het. So, jou benadering verander voortdurig. Jy bly nie net so in daai eenvoudige, vervelige groef nie.

RJ: As onderwysers bymekaarkom, veral by die *cluster*-sessie, hoe vry het jy gevoel om dinge en idees met mekaar te deel?

T2: As jy altyd kyk hoe kollegas na jou luister wanneer jy kom met jou idees, en jou verstaan die manier hoe hulle na jou luister en belanstelling toon en reaksies wat hulle gee, is altyd positief. Dan is daar kollegas wat

altyd bereid is om jou te help waar jy vashaak. Ek weet al dat ek baie van my kollegas hier rond kan help, dan kan ek baie wat ek geleer het by hulle tuisbring.

RJ: Jy beantwoord eintlik die vraag: Deel jy jou onderrigervaringe met jou kollegas? Is dit moeilik om dit met jou kollegas te doen? *Obviously* het jy nou gesê jy deel maar baie saam met hulle ook.

T2: Ja-nee, hulle kontak my gereeld, dan deel ek my kennis.

RJ: Reflekteer jy op jou eie onderrig? Indien ja, watter impak het dit op jou onderrig en leer? Indien nie, wat verhoed jou om dit te doen?

T2: Ja, ek sit gedurig, hier is mannetjies wat vir my gereeld interessante vrae vra, veral in die graad 8-, 9-klas. Dit laat jou maar net dieper dink sodat jy gereed is vir hulle. Jy moet maar altyd sorg dat jy reg is vir hulle, want die leerders wat laas jaar by my gewees het, kom nog steeds na my toe sodat ek hulle kan help. Hulle is by die hoërskool, maar hulle kom nog steeds na my toe vir help, want hulle sê hulle hou van die manier hoe ek goed aanbied.

RJ: Voel jy dat jou onderrig verbeter kan word? Verduidelik. Voel jy dat daar 'n behoefte is om jou onderrig te verbeter? Verduidelik.

T2: Ja, daar is altyd 'n behoefte om te verbeter. Ek gaan nou ook spesifiek vir die hoërskool kinders ook help. Ons skool gaan nou net tot graad sewe toe volgende jaar. Ek is bekommerd, maar dit gaan ook vir my aanmoedig om vir hulle te help, sodat ek nie in 'n groef vasgevang word nie, waar ek net graad sewe Wiskunde doen. Ek sal vir hulle moet help, veral die matrieks ook, sodat ek altyd op hoogte kan bly. 'n Mens kan partykeer verroes raak.

RJ: Watter bronne gebruik jy of raadpleeg jy om jou onderrig te verbeter?

T2: Ek google gereeld ... google en *PowerPoint presentations* wat ek kan studeer en speel vir die kinders, en ek vertaal dit vir hulle. Dit help vir my baie. En dan versamel ek ook materiaal sodat ek dit op die rekenaar kan laai, sodat wanneer die kinders daar kom, laat ek hulle oopmaak en op 'n ander wyse Wiskunde aanbied.

RJ: Beskryf, indien wel, watter impak hierdie SUNSEP AHEC-PROGRAM opleidingsprogram op jou onderrig en op die wyse hoe jou studente in jou klaskamer leer, gehad het.

T2: Ek sal dit as positief beskryf, want soos ek netnou gesê het, die manier hoe hulle die goed aanpak, is anders as wat jy in die verlede gedoen het, en jy is meer geneig om te gaan delf vir meer metodes om dinge aan te bied, konsepte vir die kinders tuis te bring. So, ek gaan delf gereeld vir ander metodes en die materiaal wat by AHEC gegee is, kan ons via die witbord en laptop aanbied.

RJ: So, definitief 'n impak op jou praktyk gemaak?

T2: Beslis, ja.

RJ: Die benadering wat gebruik word binne hierdie opleidingsprogram word die praktyk-gebaseerde benadering vir professionele onderwysleer genoem. As deelnemer aan hierdie program, wat verstaan jy onder hierdie benadering en wat was jou ervaring binne die konteks waarin jy onderrig?

T2: Die selfontdekking, nê? Ek sal sê dat dit 'n ander tipe benadering was. Ek het goed baat daarby gevind. Selfontdekking ... dit is vir myself belangrik dat wanneer 'n leerder self ontdek, en as jy hulle lei om self te ontdek, dan gaan hulle baie beter onthou. Daar word nie vir hulle gevoer nie. Hulle ontdek self en hulle onthou beter.

RJ: So, jou onderrig het heeltemaal verander?

T2: Ja, beslis. By die skerp leerders kan jy sien hulle onthou baie beter as wat hulle net na jou luister, na jou gepraatery. As hulle dit self doen, onthou hulle dit baie beter.

RJ: Kan jy enige voorstelle doen oor hoe hierdie benadering verbeter kan word?

T2: Ek dink hulle moet meer opleiding vir onderwysers op 'n ander vakgebied gee, want ons het mos nou baie baat gevind by die Wiskunde. Dan is daar mos kollegas wat daar by die NW gewees het. Hulle het baie baat gevind. So, as ons ook onderwysers oplei met daardie benadering, sal dit goed wees.

RJ: En in terme van die eintlike benadering...onthou daar was mos kontakssessies, *mentoring sessions* en *cluster*-sessies gewees, ens. Dink jy daai model is 'n goeie model?

T2: Ja, ek dink dit was a goeie model daardie. Vir my spesifiek was die *cluster* sessies belangrik. Soos ek netnou gesê het ... dit wat jy by die ander onderwysers leer, is vir my goed. Dit is vir my fantasties om so van mekaar te leer. Dit is nou maar net jammer dat ander onderwysers nie hulle tyd uitkoop om hulleself skerp te maak nie. Ek is maar bly ek is nie van daardie tipe nie, ek is maar bly om meer te leer.

TEACHER 3

GENERAL INFORMATION

RJ: You were a curriculum advisor, so I would like that perspective. You also supported the teachers. What are your current qualifications as a teacher?

T3: I obtained a BA degree then HDE.

RJ: How long have you been teaching or in the teaching profession?

T3: In the teaching profession, 24 years.

RJ: How many years were you actually teaching?

T3: Actually teaching? 18 years.

RJ: How important is professional development to you?

T3: For me personally it is one of those areas that is extremely important because there is a disparity between the higher education and what is actually taking place on ground level, at school level. And to bridge that is one of the most important things in order for professional development of how do you do certain stuff, or what is the methods when you go back to the classroom and to make certain stuff more relevant.

RJ: Ok, so your concern is the bridge between what is happening in higher education or training and what's happening in the classroom?

T3: It boils down basically to the theory part and the practical.

RJ: Were you on professional development programmes when you were a teacher.

T3: Yes, mostly at CTLI (Cape Teaching and Leadership Institute).

RJ: Describe some of them.

T3: Some of them? The first one that I did was way back in 2005. It was with the implementation of Mathematics Literacy course and, it was ... it's ... how can I explain it? It was done by two different entities. I think the school development unit of Stellenbosch was involved then the school development unit of UCT was involved in the roll out. The problem was that it was scattered. There was no coherence, no linkage that you could see how it flowed into the curriculum and that was problematic.

RJ: Just on that score, if you feel you wish to express yourself in Afrikaans, please do so. Did these programmes have any impact on your teaching?

T3: Theoretically, it developed me, but practically there was nothing.

RJ: Is professional development for teachers a necessity?

T3: Definitely, definitely. Because I'm working primarily in a primary school, for us it is ... most of our teachers in the mathematics field, it is add-on, because they are being labelled as generalist. So, the ones that are in the classroom are expected to teach Mathematics, but they don't even have the theoretical knowledge when they come from the higher institution, because most of them majored in social sciences or languages, but now they need to teach.

RJ: So in other words, to fill the gaps professional development is necessary?

T3: It is very necessary.

RJ: And the gaps I am talking about here concerns the gap for Maths, but you are social science teacher, but you need to go on these courses to teach Maths?

RJ: OK, just clarifying that. OK, what would motivate you to attend a professional development programme or professional learning programme?

T3: Firstly, it needs to be accredited. It needs to work towards ... that I can basically come and do three modules in order for a degree in that particular thing. That is one of the things. Then also, accessibility of course. That means we are from the rural areas and in the previous dispensation we were neglected. Therefore, I need to get something out of it. And then, also for me the most important is that because the reason that I'm attending is that I need to be a step ahead.

RJ: Can you expand on what you mean by accessibility?

T3: Accessibility in terms of why not bring the course to the Winelands, and not only focus at the university, so the tutors [AFR] ... een persoon moet kom vir jou, en almal moet van ver af na jou toe kom. [ENG: one person must come to you and everyone must come from afar to you.] whereas a central venue could have been in Worcester for instance as the centre, and use could be made of the Ukwanda facilities that are aligned to the university.

RJ: In other words, it's closer to your area and context?

T3: Yes, so you do not have problems regarding sleeping arrangements and all those transport claims.

SUNCEP AHEC PROGRAMME

RJ: The next set of questions is about the SUNCEP AHEC programme. What is your understanding of the SUNCEP AHEC programme?

T3: (AFR) Laat ek dit so verstaan, die eerste keer wat ek met AHEC te doen gehad het, was dit 'n *rural* ding vir kinders om sodoende kinders verder te kan vat om so *masters* te kan raak in *Mathematics* en *Science* en daarvolgens op te kan beweeg met die *qualification*. My personal experience is that the teachers are teaching the learners do not attend ... so die *programme* ... dink ek ... die rede hoekom ek dit bygewoon het, is om vir

my self te kan *upskill* in terme van sekere konsepte wat *fuzzy* is in die kurrikulum of 'n ander manier te kan vind om dit te *clarify*.

RJ: So, latching on to that, how did this particular learning programme compare to other teacher professional learning programmes in which you were a participant?

T3: The main focus of this programme was specifically on identifying misconceptions in order to rectify the misconceptions. Wat die kinders nou begin optel of wat hulle gereeld doen ... vir my was dit 'n *eye-opener*, want ek kon nou teruggaan en kyk wat is 'n *misconception* en wat is nie 'n *misconception* nie. So, vir die ander was dit byvoorbeeld, meer *in line* met die AHEC kursus, wat in line was met ... hy is baie naby aan dit wat jy in die klas kan doen.

RJ: Just to clarify: jy het vroeër gesê dat daar is 'n *disjuncture*.

T3: In higher education, yes.

RJ: And in this particular one (AHEC), if you compared it to other courses, this one tried to bridge that gap?

T3: Ja. Wat jy ook moet duidelik maak, is *bridging* byvoorbeeld. Jy kom higher education toe en dan kom die student daarvandaan af, en dan kom die student in die klas, en dan het die student nog nie die *theoretical* praktiese *experience* nie, en jy kan duidelik die trend sien waarnatoe hy beweeg en hoe hy dit in die klas kan implementeer.

RJ: Are there any differences or similarities to other training programmes you were involved in?

T3: There are differences. The material was relevant, the material we could use in the class. The previous material that was distributed on other courses, I could not use.

RJ: So, this was material that you could use in the classroom. You could take it and implement it.

T3: Yes, yes.

RJ: OK. Were there any similarities do you think?

T3: Nee, daai was die groot verskil. Een van die groot goed was gewees waarna moet ek gaan kyk.

RJ: Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, in die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes is aangespreek?

T3: Dit het.

RJ: Gee bietjie 'n verklaring.

T3: In terme van patterns, in the primary school we mostly focus on the geometric and the number pattern, while as this course also took us further whereby we could take it from the table to the graph and the interpretation of the graph to the table and backwards again. Jy kon byvoorbeeld die lyngrafiek sien en die interpretasie en denklyne, so hy het nie gestop by die werk van die kurrikulum nie.

RJ: I think you maybe have answered this question, but have you been able to practically implement the training in your classroom? If yes, what specifically, how did you actually do it?

T3: OK. Dit was 'n bietjie moeilik vir my, maar wat gebeur het, ek het die teken van die *line graph* gevat vanaf die *pattern*, na die *table*, en toe vir die leerders gesê: nou gaan ons dit *plot*. Jy sien *graphs* as 'n *separate entity in Mathematics*, maar nou kan hulle dit *infuse*.

RJ: So, dit was eintlik moontlik om daai material prakties te kan implementeer in die klaskamer?

T3: Jy sien, soos jy self weet ook, tydsgewys vir die jaar op die kurrikulum is, soos mense sê, kompak, maar indien jy een *content area* met 'n ander *content area* kan *fuse*, dan *score* jy eintlik tyd.

RJ: Beskryf die rol van jou mentor. Het jy 'n mentor gehad?

T3: Ja, ek het 'n mentor gehad. Baie goed, sy kon vir my *guidance* gee.

RJ: Did the mentor offer any value in relation to understanding the programme content, or in implementing the programme in your classroom?

T3: Die les wat ek (ons kan enige *topic* aangebied het) gekies het, was die *Pythagoras-theorem*. En dit het my oë oopgemaak, *because* die kind se voorkennis wat hy het, word ge-*assume*, maar daar was so 'n *vast amount* of kennis wat sy vir my kon uitwys ... die *different types of triangles* en sekere goed. Die report wat sy geskryf het, het ek gevra moet sy vir my uittik en deurstuur met *recommendations*.

RJ: Explain how important were the mentoring sessions, both on-site and clustering sessions.

T3: Extremely important, want dit het vir my meer skaafplekke wat ek nodig gehad het kon ek aan werk.

RJ: Do you self-reflect on your teaching?

T3: Yes, always.

RJ: If, yes, what impact has it had on your classroom teaching and learning?

T3: Voordat ek enige iets *attend*, voordat ek iets besef, dink ek dat en *reflect* dat almal leer nie dieselfde nie, wat een *way* is, sien 'n ander *person differently*.

RJ: Do you share any of your teaching experiences with your peers? Do you find this difficult to do, perhaps?

T3: I share, I need to share. Ek soek altyd vir *short cuts* ... new ideas, I always look for new ideas in order to make a difficult concept easy and simple in mathematical terms. No, I do not find it difficult to share ... ek is voorbarig [forward] (laughter).

RJ: Do you believe that your teaching is in need of improvement? Elaborate please.

T3: My teaching ... all the time, and I'm a lifelong learner and I believe I'm not ... if I'm fully learnt I could actually die ... and for me also the most important thing is that I need to be on the cutting edge of the trends

of what is happening in education ... that is why it is such a unique opportunity and it will also be a unique opportunity to attend the new courses in 2017.

RJ: What resources do you use or consult if you wish to improve your teaching?

T3: Usually it is, ek skakel nou met die FET-ouens [I link with the FET persons] ... tremendous amount of resources on the internet and then e-books.

RJ: You need to always consult resources?

T3: Always. Kan ek net terugkom na die die mentors? My probleem met die mentors is dat hulle *ge-empower* moes gewees het om groot leiding te kan gee, because during the mentoring session, the official layout was discovered, maar die *expectations* was nie *ge-clarify* nie.

RJ: I'm gonna put that here by number 22, because that is the last question. Describe, if any, what impact this training programme has made on how you teach, and the way your learners learn in the classroom? But because you are a curriculum advisor, let me ask that if you were to go back into teaching, what impact would this have on your teaching?

T3: Firstly, I would try, not try because I can see it already ... not one concept in the Mathematics curriculum is a stand-alone wat traditionally geteach is. Die goed word in silos gedoen ... ek sal almal infuse. Tweedens: start met die basics, en wat ek bedoel by die basics, don't assume the learners are capable of mastering. You first need to go over the basic stuff – som van die material sal ek revisit en gebruik as starting points, most important is dat ek reflect baie oor hoe ek dit gaan doen.

RJ: The approach used in this training programme is called the practice-based approach to teacher professional learning. Now that you have been through this training programme using this approach, what is your understanding of it and what were your experiences, in the context of where you are teaching?

T3: Basically, it is a hand-in-hand, usually it was a once-off training and then you were left on your own, and then you ...

RJ: So, when you say 'hand-in-hand'?

T3: Iemand het saam met jou gestap [someone walked with you]. The WhatsApp groups enhanced the thinking and the mentor group clarified through peer support. Ek dink dit is 'n baie goeie ding.

RJ: Die een ding wat jy ge-mention het in die begin oor die disjuncture, tussen HEI en die grond ... voel jy dat hierdie program, daai gap ...

T3: Dit maak die gap toe, want dit wat jy hier leer, en hoe jy dit gaan implement in die klas. Iemand kom monitor, indien nie, die persoon skryf vir jou 'n verslag wat non-threatening is.

RJ: Could you offer any suggestions that may improve this approach? You already gave an indication regarding the mentoring ... the mentor could offer more guidance on the assignment?

T3: The expectations of the assignment before it is handed in, the mentor needs to check it so that it is in line with the expectations.

RJ: Any other suggestions?

T3: The material could be updated to make it better for the learner's context and a more structured programme and more time because the last day of the last session was a bit rushed.

RJ: Thank you very much for your time and I appreciate it.

TEACHER 4

GENERAL INFORMATION

RJ: What are your current qualifications as a teacher?

T4: I have BEd in Education FET ... Mathematics and Physical Science.

RJ: How long have you been teaching?

T4: Four years.

RJ: As a teacher, how important is professional development to you?

T4: Very important. I'm looking forward to learning new stuff every year and any opportunity I get to improve my teaching, I take.

RJ: Have you been on professional development programmes? Describe some of the professional development programmes you have attended.

T4: It's only workshops. I've been workshopped about GEOGEBRA ... beneficial, because it showed me different ways of doing things, then the CAHOOT (???) one on how to play on the tablet and one for sport, how to coach sport.

RJ: Describe how any of these programmes impacted on your teaching.

T4: The GEOGEBRA one helped me to set up question papers, it helped to create specific graphs.

RJ: What are your opinions on the professional development of teachers? Is it a necessity?

T4: Yes, definitely. There are always new things coming out, so if you gonna be stuck behind the old way of teaching, chalk-and-talk, you gonna miss your kids, because now the kids are into this tablet, this technology. If you do not develop with them, you gonna be stuck behind.

RJ: What attracts you to particular professional development programmes? Or, what would motivate you to attend a professional development programme?

T4: What motivates me? Firstly, I struggle with pedagogy, so if there is a new workshop and it has something to do with pedagogy, then I'm attracted to that and if it has technology, then I'm attracted to the too.

SUNCEP AHEC PROGRAMME

RJ: What is your understanding of the SUNCEP AHEC PROGRAMME?

T4: My first understanding was that it was gonna advance my degree. Once I'm there, then I'm gonna learn how to teach the subject I'm registered for. So, learn more pedagogy and how I'm gonna apply that knowledge that I learnt in the classroom.

RJ: How does this teacher professional learning programme compare to other teacher professional learning programmes in which you were a participant? Are there any differences or similarities to other training programmes you were involved in?

T4: They were different, because this one is accredited, the other ones were where you just had to attend and then you received a certificate. The SUINCEP one, you had to do an assignment, which was challenging, but you actually learnt a lot from those assignments. For me it was much better than just attending a workshop and then we can learn that thing, but still be awarded a certificate stating that you are competent with the SUNCEP. When they say you are competent, then you know that you are competent because of the assignment.

RJ: Did the training sessions address any of your content and pedagogical needs, in the context of your own teaching? If yes, what specific content/pedagogical needs were addressed?

T4: Yes, the practice. For Mathematics it helped me a lot. I even took what I learnt from Mathematics and put it across to the Physical Science. For example: the misconception we learnt in Mathematics, for Physics, you do not need to have the correct equipment, you can use, you can do simulations, to present instead of doing the actual experiments ...

RJ: So, what I'm hearing is that in terms of the way, and the how you practice your teaching, you still apply it in your teaching ...

T4: Still applying in my classroom, yes, the reverse (??) classroom, I'm still using that one, that one was the best, there was also the one when you check what learners knew before, then you check what they need to know.

RJ: Have you been able to practically implement the training in your classroom? If yes, what specifically? If no, what do you think has prevented you from doing so?

T4: Yes.

RJ: I think you mentioned the how ...

T4: The how.

RJ: Also, how you transferred the misconception idea from Maths to Physics.

T4: Yes.

RJ: Was there anything else?

T4: I transferred the one from Physical Science where you identify ... what's the name now? ... what you know and how to develop the lesson plan, I did this in both subjects.

RJ: How would you describe the role of your mentor? Did the mentor offer any value in relation to understanding the programme content, or in implementing the programme in your classroom?

T4: Yes, a lot. She was the one helping me how to prepare the lesson. She told me that these things I'm doing now are good, she was negative like everything you do is wrong, she had compliments, that was positive for me. She was not focussing on one type of learning, there were different types she showed.

RJ: You found value in the mentoring sessions?

T4: Yes, yes.

RJ: Explain how important the mentoring sessions, both on-site and clustering sessions, were.

T4: Yes they both worked, because with the one on one, she was mainly dealing with my programmes that I have. Then, with the cluster we shared many problems and a lot of ideas. That was more beneficial, because you could see what the others are doing because they are more or less in the same situation. The mentor might know the content and how to deliver the content, but in terms of the classroom situation your peers know the same situation that you're in. Your peers help you to handle things like discipline, etc. We shared a lot.

RJ: Do you self-reflect on your teaching? If, yes, what impact has it had on your classroom teaching and learning? If no, what prevents you from doing so?

T4: Sometimes I'm trying to make it a habit, but sometimes it's a lot of work that I have and I do not always have the time, as I'm always thinking of other work things.

RJ: Do you share any of your teaching experiences with your peers? Do you find this difficult to do?

T4: Yes, I do. No, it's not difficult, but mostly, you can see now most people come to me and ask me for things. It's not something I enforce. I just sit back, then they know if it is something they need, then they will come and ask me.

RJ: When you came back from the training programme, did you share with the other teachers?

T4: I am the only teacher for Physics, but I shared with regard to the Mathematics.

RJ: Do you believe that your teaching is in need of improvement? Please elaborate.

T4: Yes. Well, I'm for now ... what I'm struggling with is discipline. Sometimes I would have a great lesson planned, then I will get into the classroom and then spend about 20 minutes trying to get the kids to settle down. Then I will not get to the gist of the lesson, and then I become frustrated. Sometimes, because I'm frustrated, I come back with the same frustrations, then I just give a normal lesson. I will need maybe to learn patience, so that I can deliver the great lesson that I know I can.

RJ: What resources do you use or consult if you wish to improve your teaching, when you try to create the great lesson?

T4: I normally consult Youtube or the internet, but mostly the internet. Hardly the books.

RJ: Describe, if any, what impact this training programme has made on how you teach, and the way your learners learn in the classroom?

T4: The impact in my teaching? It actually changed my whole teaching for the better, because before SUNCEP I used to enter the classroom, then I'm the one that has all the information and the knowledge, I never bothered to check what the learners know, sometimes I would just come into the class and put the classwork there and say what they must do. I'm surprised that some learners still know how to do because it has changed and I no longer assume that learners do not know anything. Actually, it's now a matter of trying to get as much information from them in order to learn. My practice changed entirely.

RJ: The approach used in this training programme is called the practice-based approach to teacher professional learning. Now that you have been through this training programme using this approach, what is your understanding of it and what were your experiences, in the context of where you are teaching?

T4: At first, I'm gonna be honest, it was very difficult to adjust to that type, whereby you are given information, everything that you will need to use for the next six months. Then, after that, you are given an assignment to do. That was very difficult to adjust, but then once I adjusted I actually saw the benefits of doing it that way ... because actually I learnt a lot from previous workshops that I attended. The things that I learnt I probably forgot, but with this one I'm constantly practicing them, I don't forget it and it was the right approach for me and I would appreciate it if all the workshops were like that.

RJ: Could you offer any suggestions that may improve this approach?

T4: Not necessarily, but there is one tiny thing. More should be made of the group learning, because that really helped.

RJ: The social learning?

T4: Yes, the social learning. We had a Whatsapp group here and we have one right here, but the Afrikaans I did not understand...

TEACHER 5

GENERAL INFORMATION

RJ: What are your current qualifications as a teacher?

T5: Matric plus four years teaching diploma.

RJ: How long have you been teaching?

T5: Teaching for about ... permanently ... I have been 17 years, but 22 years altogether. 14 years at this school.

RJ: As a teacher, how important is professional development to you?

T5: Here, I won't speak as a teacher, I will speak as an individual ... for myself. I have not been a teacher straight from high school. Financially, it was tough growing up, so I had to go and work ... I was an artisan. So for me as individual going through this, I feel very, very positive towards development and in-practice learning. I have been learning since I left school, that is grade 9, when I was artisan. Then after 18 years I went back to school to complete my matric and fulfil my dream of becoming a teacher through part-time studies. Since then, it has always been a wish of mine to keep on learning. So, as a teacher it is of utmost importance to gain as much knowledge as possible.

RJ: Have you been on professional development programmes other than AHEC?

T5: I have been on mostly workshops, a Sunday workshop or weekend workshops, those were the ones I went on, where they were mostly refresher courses, getting to grips with what I have gained over the years, what I have gained from my experiences, just refreshing, this is how things should be done.

RJ: The next question was: Describe some of the professional development programmes you have attended, but I think you answered that by stating it was one-day workshops to refresh yourself.

T5: Yes, correct.

RJ: OK, fine. So, describe how any of these programmes impacted on your teaching.

T5: FORGOT TO ASK BUT ANSWERED INDIRECTLY ABOVE IN TERMS OF THE IMPACT. IT SERVED AS A REFRESHER COURSE TO HOW THINGS SHOULD BE DONE, RATHER THAN HOW THINGS COULD POSSIBLY BE DONE.

RJ: What are your opinions on the professional development of teachers? Is it a necessity?

T5: I think it is of utmost importance, because for a teacher, one can never know enough, because you always will be faced by pupils, and in this day and age we living in, the children are more technologically advanced than the grown-up, so it is of utmost importance that you as a teacher get to grips with what is currently happening. So, for a teacher it is very important to go through teacher development.

RJ: So, if I hear you correctly, it is to keep up the trends?

T5: Yes, keep up the trends, as well as the subject, what's new in the subject. To be honest, I have not been teaching Maths for a while now. I have been constantly on Maths Lit, but for myself and my individual development, I attended the Maths course just to keep up.

RJ: So, this would be to keep up with the practice and improving your own practice?

T5: Definitely.

RJ: What attracts you to particular professional development programmes? Or, what would motivate you to attend a professional development programme?

T5: When you come back from whatever you are on, whether a workshop or professional development, if you put that into practice with your kids, you can notice the difference in their reactions and it is actually a way of getting back that satisfaction of achieving something.

SUNCEP AHEC PROGRAMME

RJ: What is your understanding of the SUNCEP AHEC PROGRAMME? When you heard about the programme, what was the first thing that went through your mind?

T5: I understood it that when you attend the programme, your knowledge will increase, or should increase what you gain from the programme is from, let's call them professionals, that know their stuff and are able to clarify issues that are maybe bothersome to you and I must admit to a very great extent that did happen.

RJ: How does this SUNCEP AHEC programme teacher professional learning programme compare to other teacher professional learning programmes in which you were a participant?

T5: It was quite different.

RJ: In other words, the follow question to that is: Were there any differences or similarities to other training programmes you were involved in?

T5: There were a few differences, but similarities? Similar in the sense that content was covered that would be covered in the curriculum, but differently in the sense that you could interact with each other as well as the facilitator, and that made it quite refreshing and it felt like you were achieving something, and you granted somebody else the opportunity to gain some of your knowledge as well.

RJ: So, you felt like it was a community of learning?

T5: Basically, yes.

RJ: Did the training sessions address any of your content and pedagogical needs, within the context of your own teaching? If yes, what specific content/pedagogical needs were addressed?

T5: Definitely, definitely, yes, to a great extent. Let me explain how I experienced it. We were given a scenario of how you take your child from the knowledge that they had, the previous knowledge, and how you take them from there, to the new knowledge that they are supposed to be gaining. That was quite exceptional for me because the activities that were given were very nice activities, you can use in your classroom. It's not set on the level of the teacher, it's set on the level of the learner, where you can use some or most in your classroom and that was refreshing.

RJ: In terms of your content, did it improve your content?

T5: Definitely, yes.

RJ: And your pedagogy?

T5: Yes, definitely. What they touched on is what we learnt in college, but in the process of teaching you fall into a groove, and honestly we were told that in college as well, but remember to get out of that groove, and these courses got me out of that groove again, that I fell into.

RJ: Have you been able to practically implement the training in your classroom? If yes, what specifically? If no, what do you think has prevented you from doing so?

T5: Honestly, I have not been teaching Maths, but what I did, I had a class last year, that was a grade 9 class and some of the content I learnt (on the course) was to be used in grade 10. I did not do a lot with them, but I used trig to show them how to measure the height of the pole. I took photos. It made me feel good, 'cause I wanted to teach grade 10 ... if I could, this is what I would do.

RJ: So, the following question is what prevented you? Was it the fact that you did not have a Maths grade 10 class?

T5: Correct.

RJ: How would you describe the role of your mentor? Did the mentor offer any value in relation to understanding the programme content, or in implementing the programme in your classroom?

T5: Most definitely yes. We had a few sessions ... it ... I'm speaking from my point of view, I had a chance to interact with some of the people in the group, and they interacted with us. What came out of there was that we came out there quite refreshed. One of us had the chance to share our thoughts and some of our practices that we did. So yes, I think having a mentor there is an excellent idea and should be there in future sessions.

RJ: I think you actually answered this question about the importance of the mentoring sessions, both on-site and in clustering sessions. So important hearing this whole social learning thing.

T5: Yes, yes, and she came to visit me individually, and we spoke about what we did there, pros and cons, and also about what can be done about the subject.

RJ: Do you self-reflect on your teaching? If, yes, what impact has it had on your classroom teaching and learning? If no, what prevents you from doing so?

T5: Not enough, honestly, not enough. I do, but ja ... as I said, I get caught in a groove where I need to do this and I need to do that. Once we get to a point where I speak to the kids, and I see that blank look on their faces, then I need to reflect. I don't often get that blank look. My desks are not arranged in rows, they are arranged for learners to interact. When I do need to reflect, I ask someone to come and tell me what I should do.

RJ: This links in nicely to the next question. Do you share any of your teaching experiences with your peers? Do you find this difficult to do?

T5: Definitely. In my younger days, I was very much of an introvert. I am no more the introvert, I do not care what people say about me, as long as what they say, I can use to better myself.

RJ: Do you believe that your teaching is in need of improvement? Elaborate please.

T5: Definitely, definitely. I think if an individual or teacher says that he/she is perfect in teaching, they would be a liar and I would be a liar if I said my teaching is not in need of improvement, I think my teaching should improve more, say like 50%, 20%, ..that would be too less ... my teaching does always need improvement.

RJ: What resources do you use or consult if you wish to improve your teaching?

T5: Normally I would resort to books, but after the assignment that we had now, I'm not going back to books. I go to the internet as often as I can. With the internet I find more places to go and search. I also consult with people. In my early years as a teacher I constantly used to do that, as the years progressed, I did it less, but I still consult.

RJ: Describe, if any, what impact this training programme has made on how you teach, and the way your learners learn in the classroom?

T5: The AHEC? I'm honestly not saying this because you are from there. It made a vast difference in the sense that we had our contact sessions, we had the session with the telematics, we had the mentor, and if that ... can I ask you a question, Ramesh?

RJ: Yes, yes.

T5: Will this be available to other teachers?

RJ: We try to do this...

T5: Because honestly, Ramesh, I think every teacher needs something like this AHEC project, because one can only gain knowledge from this, but not only knowledge, practice as well, and as often as these programmes can be presented to other teachers as well, the teachers could become better, they should become better.

RJ: The approach used in this training programme is called the practice-based approach to teacher professional learning. Now that you have been through this training programme using this approach, what is your understanding of it and what were your experiences in the context of where you are teaching?

T5: If anybody is negative about this approach, then I do not think that a person should not be a teacher, because it was similar to how one approaches his pupils. To make an example; when I first came there I felt like what's going to happen today, what am I going to learn, and how are the people going to treat me? I came into the hall and there was somebody who made me feel I am home, because the person greeted me, and made me feel like part of a family, made me feel special. The team made us feel welcome.

RJ: In terms of the practice-based approach: there were the contact sessions, telematics, mentoring and everything else.

T5: It was a good experience, definitely.

RJ: Could you offer any suggestions that may improve this approach?

T5: I went there as a learner and I felt things, and I experienced things, but I can think of them now. Maybe if this can just be done more often, with more teachers. But not the long period in between. That would improve the teaching profession to a tremendous extent.

TEACHER 6

GENERAL INFORMATION

RJ: What are your current qualifications as a teacher?

T6: My highest qualification is BSc Psychology and a diploma in Education, obtained in Zimbabwe.

RJ: How long have you been teaching?

T6: I taught for 10 years in Zimbabwe, and this is my sixth year in this country.

RJ: As a teacher, how important is professional development to you?

T6: It is quite important, especially to those who have to give back as things are changing now. It really helps if you are professionally developed again.

RJ: To be more specific, it helps with what?

T6: Normally, knowledge itself also changes. Also, look at technology also changing. Also look at traditional teaching itself. There is a shift now. So we no longer do like we did way back. There is change.

RJ: Have you been on professional development programmes?

T6: Yes, I have.

RJ: Describe some of the professional development programmes you have attended.

T6: We used to attend quite a number of them in the district here, especially in Mathematics and leadership in Mathematics, HED in Mathematics are the ones I attended. I am head of Maths at the moment. We attended those workshops to see how we can lead those under your department. The most important things: how to handle teachers, how to moderate and quality assure teachers' work, those kinds of things.

RJ: Describe how any of these programmes impacted on your teaching.

T6: It really did it because the way I used to teach myself ... because I was trained a long way back. So, most of the time, using the traditional way of teaching, okay, so we now have technology now, also changed, so it really helped me to shift away from the traditional way of teaching, moving to the technological era, which has changed my practice.

RJ: What are your opinions on the professional development of teachers? Is it a necessity?

T6: Yes, it is a necessity ... it is.

RJ: In which way?

T6: Because normally, even those who come from college now, you see that they even need to be developed, because ... The experienced teachers also, because some important things from college they never learnt. It brings the traditional and new together.

RJ: What attracts you to particular professional development programmes? Or, what would motivate you to attend a professional development programme?

T6: The desire to help the learner and to excel in my teaching profession.

RJ: So it is two-fold: to help the learner ... in what way, be more specific please.

T6: Sometimes the knowledge that I think I have is proper, sometimes it is not, or it must not be delivered the way I feel it should be delivered. So, when I get to the professional developments, it aligns me to the knowledge.

SUNCEP AHEC PROGRAMME

RJ: What is your understanding of the SUNCEP AHEC PROGRAMME?

T6: My understanding? It had the aim of bringing the theoretical knowledge that we have to make it the practical.

RJ: How does this teacher professional learning programme compare to other teacher professional learning programmes in which you were a participant?

T6: It was more practical. That is what I liked about the programme and even the topic itself, it was so relevant to the problem that we have in schools.

RJ: Are there any differences or similarities to other training programmes you were involved in?

T6: To me this was unique, it was different.

RJ: And that uniqueness was the practical nature of it?

T6: Yes, the practical nature and also the time it took.

RJ: Did the training sessions address any of your content and pedagogical needs in the context of your own teaching? If yes, what specific content/pedagogical needs were addressed?

T6: Yes, it did, because when I look at the topic we are doing, when I come back here, I see teachers here were still confused between a pattern and a function. When learners are given those problems, learners tend to find a pattern, but teachers find a function, so I was able to help teachers see the difference.

RJ: Have you been able to practically implement the training in your classroom? If yes, what specifically? If no, what do you think has prevented you from doing so?

T6: Yes. I did.

RJ: How?

T6: I demonstrate. I used most of the methods in the workshops.

RJ: And you mentioned they were very practically orientated?

T6: Yes, practically orientated, and I was also able to help the teachers.

RJ: In terms of content, did that improve the knowledge?

T6: Yes, it did.

RJ: And the pedagogy?

T6: It also improved.

RJ: How would you describe the role of your mentor? Did the mentor offer any value in relation to understanding the programme content, or in implementing the programme in your classroom?

T6: It did very well, because when she came here, she was also able to tell me where, the secrets or important aspects on the concepts, secrets like that.

RJ: You mentioned about theory and practical. Did the mentor help to bridge that gap?

T6: Yes, she did.

RJ: Explain how important the mentoring sessions, both on-site and clustering sessions, were.

T6: When we meet as a cluster, it helped so much because that is where we had quite a number of different ideas, and the people also add the concepts, they also add their views on how to teach different topics. So, it helps you so much, more than when the mentor comes along.

RJ: Would you term the cluster as social learning?

T6: Yes, social learning it was.

RJ: Do you self-reflect on your teaching? If, yes, what impact has it had on your classroom teaching and learning? If no, what prevents you from doing so?

T6: Yes, I can reflect on my teaching. It improved my teaching and learning.

RJ: Do you do it often, or did this course motivate you?

T6: I normally reflect weekly, but normally it is very difficult to reflect, because we can't go onto the next concept if you don't reflect, but self-reflect is very important.

RJ: Do you share any of your teaching experiences with your peers? Do you find this difficult to do?

T6: Yes, I do. We meet every Tuesday with the department in the afternoon, if there is something to be discussed.

RJ: What would that something be?

T6: Normally, look at the ... because they may have a problem with different concepts. So, if someone has a problem, or an issue or a view, we just write a circular to move around, but we set aside Tuesday.

RJ: Do you believe that your teaching is in need of improvement? Elaborate please.

T6: Yes, I do. I do, because if we look at this classroom and the desks. If we had computers, I would have to know how to use them to improve my teaching.

RJ: What resources do you use or consult if you wish to improve your teaching?

T6: I normally consult the internet.

RJ: Describe, if any, what impact this training programme has made on how you teach, and the way your learners learn in the classroom?

T6: Now, I would say that it has improved my teaching and the knowledge of the concept of patterns and functions.

RJ: When you say 'improved my teaching,' can you be more specific?

T6: The methods I was using changed and also the belief that I had when the topic patterns, functions come to mind, it would show me the difference between patterns and functions.

RJ: Because your theoretical knowledge improved, your practical knowledge improved?

T6: Yes it did, it did, and also my learners improved.

RJ: The approach used in this training programme is called the practice-based approach to teacher professional learning. Now that you have been through this training programme using this approach, what is your understanding of it, and what were your experiences in the context of where you are teaching? (HAD TO BREAK DOWN QUESTION FOR CLARITY.)

T6: Now, if I look at the approach, it was a very fruitful one and I would also be more happy if maybe more practical things like games or things that are really tangible were available that we could use in the classroom.

RJ: Did it address your theoretical and practical aspects?

T6: Yes, it did.

RJ: Could you offer any suggestions that may improve this approach?

T6: If I look at it this way, I would like it if we take concept by concept. If we take from the first concept the topic in mathematics and find practical ways. Because, when I look at learners, they look at practical things. So that we may help them when they go out in the community, so if they can just bring all those things, the games to understand the concept.

TEACHER 7

GENERAL INFORMATION

RJ: Wat is jou huidige kwalifikasies as 'n onderwyser?

T7: Ek het 'n BSC, 'n HOD, en ook 'n verdere diploma in onderwys; ek het vyf jaar opleiding.

RJ: Hoe lank is jy in die onderwys?

T7: Vanaf 1979.

RJ: As 'n onderwyser, hoe belangrik is professionele ontwikkeling vir jou?

T7: As jy 'n onderwyser is, is jy 'n lewenslange leerder. So, jy moet jouself ontwikkel, tot jy die dag aftree. Daar is nie 'n tyd waar jy kan sê jy nie verder ontwikkel nie, want kurrikulum verander, omstandighede verander, kinders verander, en jy moet kan bybly met die uitdagings.

RJ: Was jy al ooit op 'n professionele ontwikkelingsprogram?

T7: As daar enigiets van die Department, of Afrikaanse Wiskundevereniging, of Stellenbosch aangebied word, woon ek hulle almal by.

RJ: Beskryf sekere van die professionele programme wat jy bygewoon het.

T7: Ek dink ... wat die AHEC-program betref, was ek daar van die begin af. Party van hulle was gerig op inhoud wat baie, baie inhoud was. Party was gerig op aanbieding, soos verlede jaar, baie meer op die manier van aanbieding ... dit was nou die AHEC ... en die Wiskundevereniging vir Afrikaans, wat ek bygewoon het, was gerig op tegnologie. Kyk na Geogebra en verskillende wiskundeprogramme wat ons kan gebruik. Dit was vir my baie waardevol. Ten spyte daarvan dat ek wel meetkunde vroeëre gegee het ... dit was nou uit die sillabus uit, en ek het byvoorbeeld funksies gesien wat heel 'n nuwe aanslag gee wat aangaan ... dieselfde vir meetkunde.

RJ: Beskryf watter impak enige een van die programme op jou onderrig gehad het.

T7: Ek dink die grootste impak op my was die manier hoe ons die ding benader, half 'n verandering in jou aanslag. Jy het 'n voorgestelde idee van tegnologie wanneer jy op so 'n ding gaan, jy word blootgestel aan die gebruik daarvan, dan gaan jy terug en jy pas hom aan by dit wat jy gedink het en hoe dit moet gedoen word en dan pas jy hom aan hoe jy dink dit die beste gaan wees. Ek is nie 'n voorstander van maak soos hulle vir jou sê nie. Jy moet nog steeds jou verstand kan gebruik om te dink wat is die beste implikasie vir jou omstandighede en jou skool wat 'n mens kan gebruik.

RJ: Wat is jou opinie oor professionele ontwikkeling van onderwysers. Is dit nodig of belangrik?

T7: Absoluut, veral in die vak Wiskunde, is dit nog meer nodig as wat dit huidiglik gedoen word. Ek dink nie dat onderwysers wat moet betrek word, word betrek nie. Die onderwyser wat nog 'n leerder is, is die ene wat opdaag. Ek dink daar is nog vele ander wat net in die job ingesit word, wat dit nie regtig wil doen nie en dit nie regtig ordentlik kan doen nie en ook nie bereid is om daarvoor opgelei te wil word nie. Ek dink in Wiskunde-onderrig, veral in die laerskool, is daar regtig 'n tekort. Ek dink die probleem in Wiskunde lê nie by die kinders nie, dit lê by die onderwyser wat dit moet moet oordra.

RJ: So, dit is die oordrag van die kennis?

T7: Ja, dit is.

RJ: Wat trek jou aan om 'n professionele ontwikkelingsprogram vir onderwysers by te woon? Of, wat motiveer jou om 'n professionele ontwikkelingsprogram by te woon?

T7: Ek dink vir myself is dit lekker om daar met die mense te skakel. Mens kry nuwe idees en nuwe planne en hoor watter probleme hulle het. Dan kom jy agter dat jou probleem nie uniek is nie, want dit is dieselfde probleme by jou skool ook. Jy kry nuwe planne by hulle en dan natuurlik, en dit hang af wat was die idee van die professionele-ontwikkeling, jy kry iets daaruit as jy met 'n oop gemoed gaan. Jy kan dit definitief nie net so toepas nie, maar jy kry definitief iets daaruit elke keer, en as jy eers die gevoel het dat jy iets daaruit kry en dit die moeite werd is, gaan jy maar weer en sien jy wat jy nou daaruit kry.

RJ: So, wat ek eintlik hoor, is julle network en sosiale leer en leer van ander mense?

SUNSEP AHEC PROGRAMME

RJ: Hoe verstaan jy die SUNSEP AHEC-PROGRAM?

T7: Dit het vir my daaroor gegaan dat ek dink baie onderwysers hou nog skool op die ou manier, waar kinders afgerig word om sekere goed te doen, en waar hulle nie regtig die praktyk in die ding kan inbring nie. Hulle konsentreer op die inhoud en dan gaan dit by die kinders verby, want dit is nie in hulle ervaringsveld nie. So, hierdie program het vir my wyer oopgemaak hoe mens regtig die internet en die praktyk self kan inbring. Veral Trig laat hom baie daaraan toe. En ek dink dit is een van die afdelings in elk geval in ons vak wat baie meer praktykgerig is. Jy kan nie alles op daai manier aanbied nie, maar wanneer jy kom by so 'n afdeling, dink ek dit is belangrik dat jy wel die praktyk inbring in jou aanbieding van die begin af, sodat die kinders kan verstaan van wat die nut eintlik is.

RJ: Wat jy eintlik sê, is dat die kursus op die praktyk gerig was?

T7: Ja, die inhoud en praktyk saamgebring sodat hulle kan sien waar dit gebruik word. Kyk, die kinders gaan vir jou vra: "Waar kan ons dit gebruik?" Nou, dit is een van die afdelings waar ons ten minste vir hulle kan sê waar ons dit gebruik.

RJ: Hoe vergelyk hierdie professionele ontwikkelingsprogram, met ander programme wat jy bygewoon het?

T7: Ek dink dit was op dieselfde vlak wat die inhoud aan betref, maar die aanslag was anders. Dit is nie noodwendig by die ander programme dat hulle spesifiek gepraat het om hoe die praktyk regtig in die ding in te bring nie, maar die vlak is dieselfde. Die aanbieders was daar en hulle het hulle aanbiedings ingebring. Die groot ding van dit is dat onderwysers moet besef jy moet haal daaruit wat van toepassing is vir jou. 'n aanbieder kan nie vir almal iets gee as hy so gaan aanbied in sy klaskamer nie. Jy moet gaan uithaal wat jy kan gebruik in jou klas.

RJ: In terme van die benadering van die program self?

T7: Ek dink dit was 'n baie goeie program. Ek weet nie of almal regtig die waarde daaruit gaan met sy eie praktyk in gedagte nie. Die feit dat ons die werksplanne moes gedoen het, was 'n goeie ding, 'n goeie oefenlopie. Kyk, ons kan dit nie in die praktyk so doen nie. Daar is nie 'n manier waar ek vyf sulke goed vir die volgende dag kan doen as ek vyf verskillende grade gee nie, maar die konsepte was waardevol.

RJ: Hoe eenders of verskillend was ander programme met hierdie program? Ek dink jy het dit alreeds hierbo beantwoord. So, volgende vraag: is daar enige verskille of ooreenkomste ten opsigte van ander programme waarby jy betrokke was?

T7: Ek was nooit regtig by so 'n program waar die praktyk onderigbetrokke was nie, waar jy met jou lesplanne gesit het en daai tipe van dinge nie. Ek dink wat die aanbieding betref: dit is klomp ure wat jy insit, wat nie heeltemaal so in die praktyk toepasbaar gaan wees nie. Kyk, as jy 'n onderwyser is en jy het vyf matriekklasse, en dit is al wat jy het, dan kan jy dit volledig kan benut. Maar as jy een van elke klas het, nog steeds vyf klase, maar een van elke graad, daar is nie manier waar jy op daai vlak op dieselfde manier kan aangaan nie. Maar dit wat jy daaruit leer, maak jou in elk geval meer vaartbelyn vir die manier hoe jy elk geval 'n ding kan gaan doen, 'n paar nuwe tegnieke wat jy self kan plooi, sodat jy naasten daar kan kom as wat jy sonder dit gewees het.

RJ: So, wat ek hoor is 'n opbou van nuwe vaardighede wat jy kan eintlik gebruik

T7: Ja, ja definitief.

RJ: Oukei. Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, binne in die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes was aangespreek?

T7: Ek dink my aanslag is baie praktykgerig, maar ek dink dat dit vir my bietjie wyer gevat dat mens die tegnologie meer kan benut, as net byvoorbeeld om 'n paal of boom te gaan meet. Ek het nogal heelwat nuwe tegnieke gesien. Wat ek wel agtergekom het wat party van die onderwysers op klemgelê het wat ek glad nie mee beïndruk was nie, was op Youtube, waar die kinders rympies leer om die goed te onthou. Vir my, ek wil nie kinders afrig om 'n rympie te kan leer en dan weet hy nie wat dit beteken nie. Dit het net my vermoede bevestig dat baie mense die vak afrig in plaas van dit te onderig, maar dit is goed om dit te gesien het en ook te verstaan dat daar sekere goed is, veral met swak kinders, daar 'n ander manier is om net 'n rympie te gee, dit bietjie meer vindingryk raak. ...

RJ: Was dit moontlik om die opleiding prakties in jou klas te implementeer? Indien ja, wat spesifiek het jy geïmplementeer? Indien nee, wat het jou verhoed om dit te implementeer?

T7: Ek het definitief meer vir die kinders gewys op die internet, 'n paar oulike videos gewys, in plaas dat ek 'n vreeslike ding gaan opstel. Dit was baie meer visual, die kinders hoor nie meer nie, hulle sien net. So jy moet jou werk meer visual maak. In die ou dae het jy baie meer vertel en prentjies geteken, en dan het jy hulle verloor. So, as dit baie meer kleurryk en visual is, vir die aanvang en aandag kry, dan kan 'n mens later gaan na die detail toe. Dit is eintlik maar net 'n nuwe aanslag wat 'n mens moet doen: eers visual en dan te kom by die nitty gritty. Goed, om te sit op jou boude, doen nou die ding.

RJ: Hoe sal jy die rol van jou mentor beskryf? Het die mentor enige waarde bygevoeg in terme van hoe jy die program inhoud verstaan of om die programme in jou klas te implementeer?

T7: Nee, nie regtig nie. Ek dink jy het jou eie manier van dinge doen en ek het nie 'n mentor regtig nodig gehad nie. Ek het nie 'n behoefte gevoel dat iemand anders vir my kom vertel nie, so ek het dit nie benut nie.

RJ: Verduidelik hoe belangrik die mentorsessies, beide op skool en die klustersessies, was?

T7: Sy het die skool kom besoek. Ek dink sy het 'n paar goed geleer. Dit was goed vir haar om die skool te kom besoek. Dit is goed vir die kinders om iets vanaf buite te ervaar.

RJ: En die klustersessies, wat was jou ervaring?

T7: Dit is waar jy nou saam met die onderwysers skakel. Ek hou daarvan om te sit en goed uit te werk, en probleme, sommetjies op te los.

RJ: Reflekteer jy op jou eie onderrig? Indien ja, watter impak het dit op jou onderrig en leer? Indien nie, wat verhoed jou om dit te doen?

T7: Refleksie is absoluut noodsaaklik, ek dink aan elke einde van die kwartaal wanneer die punte uit is, kan 'n ou nou sien die uitvalle van die kinders en dan begin jy wonder oor die ondersteuning en daai tipe ding, so daar moet heeltyd refleksie wees. As die eksamen begin het, dan is my kop by volgende jaar, dan dink jy hoe jy dit anders gaan doen. Jy besef nou dat volgende jaar sien jy nuwe kinders, jy begin dink hoe jy 'n bietjie anders gaan werk, sommige van die kinders het agtergebly. Jy wil so graag hê dat al die kinders in jou klas voordeel trek by dit wat jy kan aanbied. Jy moet altyd sorg dat hy kry wat hy moet kry, al is dit nie sy fokus nie. Dit is 'n wisselwerk elke jaar ... nuwe kinders, nuwe dinge. ..

RJ: Deel jy jou onderrigervaringe met jou kollegas? Is dit moeilik om dit met jou kollegas te doen?

T7: Ek weet nie hier nie, maar as 'n mens by die network is of by die merkery gaan praat, is dit vir my lekker. Die Departement gaan van volgende jaar af, hulle noem dit, networking of so iets, daar gaan ons meer geleentheid kry.

RJ: So, dit is nie eintlik moeilik vir jou om jou ervare te deel nie?

T7: Nee, glad nie.

RJ: Voel jy dat jou onderrig verbeter kan word? Verduidelik. Voel jy dat daar 'n behoefte is om jou onderrig te verbeter? Verduidelik

T7: Definitief, ek dink enige mens se onderig moet verbeter word. Jy moet altyd aanpas om by die kinders uit te kom. Kinders verander en op een of ander manier en jy moet jy jou onderig verander om by hulle in te pas. Dit is nie 'n kwessie van dat ek dink ek weet alles nie, ek het die kennis maar om die kennis oor te dra, verg nuwe planne.

RJ: So, daar is altyd 'n behoefte daarvoor?

T7: Altyd 'n behoefte.

RJ: Watter bronne gebruik jy of raadpleeg jy om jou onderrig te verbeter?

T7: Ek kry so een keer 'n week of so e-posse van die Afrikaanse ding. Jy weet, 'n mens kan nie altyd die Amerikaanse ding net so vat nie, en dan Youtube-videos en -artikels. Ek het onlangs 'n baie goeie boek gelees oor active learning, 'n uitstekende boek oor praktiese wenke wat jy saam met jou kinders kan doen om hulle aandag te hou en om te wissel in jou klas. Jy weet, vandag kan kinders nie vir meer as tien minute konsentreer nie, so jy soek altyd 'n bietjie van 'n verandering. En dan ook, gesels met ander mense en dan die praktyk gaan uittoets in jou klas. Dit is 'n proses, so ek maak maar gebruik van wat ek kan kry. Die kursus is natuurlik die maklikste, maar jy moet dit gaan toepas en gebruik maak van ander bronne om dit te verryk.

RJ: Beskryf, indien wel, watter impak hierdie opleidingsprogram op jou onderrig en die wyse hoe jou studente in jou klaskamer leer, gehad het.

T7: Omdat ek altyd op die praktyk gerig probeer wees en omdat dat ek nooit my aanbieding teoreties begin nie (ek gee nooit 'n kind 'n formule nie, hulle moet dit self aflei) was my aanbieding altyd dat ek wil hê die kinders moet self by die kennis uitkom, het hierdie kursus dit baie meer prakties gemaak. Trek jou eie lyne, meet dit self, hulle ontwikkel self daai formules. Wys hom 'n video, dit maak dit net meer visual en prakties.

RJ: Die benadering wat gebruik word binne hierdie opleidingsprogram word die praktyk-gebaseerde benadering vir professionele onderwyseer genoem. As 'n deelnemer in hierdie program, wat verstaan jy onder hierdie benadering en wat was jou ervaring binne die konteks waar jy onderrig?

T7: Ek het dit heeltemaal ervaar as praktykonderig. Die inhoud het geweldig by dit aangepas. Ek dink vir my dat kinders in die platteland baie blootgestel is aan die internet, so die praktyk, en visual en tegnologie moet bymekaar kom en benut word sodat die kind kan leer. Maar dit is nog steeds belangrik om met pen en papier te gaan sit. Hulle kan nie daarby verby kom nie. Hulle moet dit nog steeds gaan oefen. So dit was 'n goeie balans.

RJ: Kan jy enige voorstelle maak hoe hierdie benadering verbeter kan word?

T7: Die enigste ding wat ek nie heeltemaal kan benut nie, was die lesplan-ding, Ons in die hoërskool word nooit gevra om lesplanne so volledig uit te werk nie. Dit is seker die enigste lesplanne wat ek so volledig uitgewerk het. Ek dink dit kan meer praktyk-geonderig word vir die onderwyser. Die idee is goed, maar dit word nie elke jaar so gebruik nie. Daar moet geleer word om dit aan te pas. Dit is al wat ek voel: dat die onderwyser moet toegerus word met iets wat hy langdurig kan gebruik, en aanpas vir volgende keer, meer konsentreer op wat hy gaan doen, die praktyk, as op die teorie!

RJ: Die taak moet meer konteksgerig word, want almal se konteks is verskillend?

T7: Ja.

TEACHER 8

GENERAL INFORMATION

RJ: Wat is jou huidige kwalifikasies as 'n onderwyser?

T8: Ek het matriek, HoD en ACE.

RJ: Hoe lank is jy in die onderwys?

T8: 12 jaar waarvan ek 10 jaar permanent is.

RJ: As 'n onderwyser, hoe belangrik is professionele ontwikkeling vir jou?

T8: Professionele ontwikkeling vir my persoonlik is as jy kan ontwikkel ... dit is mos 'n ontwikkelingsproses, en hierdie ontwikkelingsproses baan eintlik die breë spektrum hoe die onderwys lyk. Jy kom in aanraking met mense, jy leer ook, jy verbreed jou visie, en so gaan die ontwikkeling van so 'n aard wees, dit wat jy gekry het, gaan na die volgende generasie. Persoonlike ontwikkeling maak vir jou sterker in jou beroep, jy kan die beste in jou vermoë doen om ander mense te help.

RJ: Was jy al ooit op 'n professionele ontwikkelingsprogram?

T8: (Forgot to ask, but by implication and the response to next question, he was on PD programmes).

RJ: Beskryf sekere van die professionele programme wat jy bygewoon het.

T8: Ek het byvoorbeeld die *lead teacher* bygewoon, ek het onder andere 'n wiskundekursus vir die IF, een in Kuilsrivier en Worcester ... dan ook by CTLI, Wiskunde gedoen. Dit was vir my noemenswaardig kususse ... gesien in die lig dat ek het nie geweet nie dat die rigiede in wiskunde kan verander. Ek het my kennis baie verbreed

RJ: Beskryf watter impak enige een van die programme op jou onderrig gehad het.

T8: Oo, dit het 'n verskriklike impak gehad. Soos ek sê, ek het groot geraak in 'n regime waar jy doen hoe ek vir jou sê hoe dit gedoen moet word ... en hierdie kursusse het vir my out of the box laat dink. Daar is ander maniere hoe jy 'n som kan doen, iets kan benader. Dit het vir my die vak Wiskunde meer aanvaarbaar gemaak. Terwyl 'n mens in die skool was, het jy met vrees gesit in Wiskunde. Hierdie kursusse het vir my baie vrugte laat pluk.

RJ: Wat is jou opinie oor professionele ontwikkelings van onderwysers. Is dit nodig of belangrik?

T8: Dit is nodig en belangrik, definitief. Ek begin by die nood: in die sin dat verskillende soorte kinders uit verskillende agtergronde na jou toe kom, hoe om die verskillende kinders van verskillende vlakke te benader. Dit is die belangrikheid van professionele ontwikkeling.

RJ: Wat trek jou aan om 'n professionele ontwikkelingsprogram vir onderwysers by te woon? Of, wat motiveer jou om 'n professionele ontwikkelingsprogram by te woon?

T8: As ek by elke professionele ontwikkeling is, leer ek iets uit dit uit, en dit motiveer my sodat wanneer daar nog ene is, dan sien ek uit daarna. Dit maak my nuuskierig om by die volgende ene aan te sluit. Dit is 'n leerproses, ek wil amper sê. Dit is 'n continuous sustainable development, dit is lifelong learning, dit is my visie en my motivering

SUNCEP AHEC PROGRAMME

RJ: Hoe verstaan jy die SUNSEP AHEC-PROGRAMME, toe jy die info gekry het?

T8: Vir my was dit baie onbekend gewees. Ek is eerlik as ek sê, jinne, is dit dat dan regtig nodig om so 'n kursus by te woon? Is daar alweer 'n kusur? Maar toe ek my voete in die deur sit, toe sien ek waaroor dit eintlik gaan, toe begin ek belangstelling toon. Jy gaan somtyds met 'n negatiewe houding kursus toe, maar AHEC het my kennis en visie verbreed, en mense aan te moedig om hierdie kursus by te woon.

RJ: Hoe vergelyk hierdie professionele ontwikkelingsprogram met ander programme wat jy bygewoon het?

T8: Ek sal vir jou sê.

RJ: Met ander woorde, die volgende vraag is: Hoe eenders of verskillend was ander programme van hierdie program?

T8: Afhangende van die inhoudsarea wat ons gedek het, maar ek gaan weer sê, daar is 'n fyn lyn tussen die kurssusse. As ek na die SUNCEP-kurssuse verwys, dan was dit 'n meer ontwikkelingskursus, m.a.w. benaderings word nou op 'n ander manier godoen. Dit wat jy geleer het, jy dink miskien dit is die einde van alles ... nou kom SUNCEP in en hy sê dit is nie nou net dit nie. Kom ons gaan 'n bietjie verder, en dit het vir my nog nuuskieriger gemaak. Die verskil wat ek sien, dit is nou net lifelong-learning ... dit word in diepte gedoen.

RJ: Het die opleiding enige van jou inhouds- en pedagogiese behoeftes, binne in die konteks van jou onderrig, aangespreek? Indien ja, watter spesifieke inhouds-/pedagogiese behoeftes was aangespreek?

T8: Soos ek gesê het, was ek baie negatief, maar toe ek sien hoe dit my pedagogies ontwikkel het, het ek 'n ander benadering gesien. Byvoorbeeld, die CAPS sê vir jou hoe dit gedoen moet word, maar ek het my ingeleef in die kursus, ek het gevat en dit toegepas en vergelyk, dit het vir my die aanbieding en die pedagogie baie ontwikkel en die kinders het dit baie geniet. Ons kinders het 'n vrees vir Wiskunde, maar ek kan jou een ding sê, dat hierdie kursus 'n open relationship tussen my en die kinders geskep het, vertrouwe en vrye wil ...

RJ: Dit het eintlik jou praktyk heeltemaal verander?

T8: Heeltemaal. My beplanning is heel anders. Ek bedoel, daar is konsepbeplanning wat die vakadviseurs vir jou gee, dan voeg ek by om by my kinders aan te pas.

RJ: Was dit moontlik om die opleiding prakties in jou klas te implementeer? Indien ja, wat spesifiek het jy geïmplementeer? Indien nee, wat het jou verhoed om dit te implementeer?

T8: Kom ons gee 'n voorbeeld vir jou. Die kursus wat ek gedoen toe ek in my vierde jaar die ACE gedoen het, het ek baie voorbeelde uitgehaal, hoe prakties dit is, hoe langer kinders dit gaan onthou.

RJ: Hoe sal jy die rol van jou mentor beskryf? Het die mentor enige waarde bygevoeg in terme van hoe jy die programinhoud verstaan of om die programme in jou klas te implementeer?

T8: Die mentor was 'n baie gename persoon gewees. Sy weet presies wat die omstandighede en tekortkominge is, sy het presies geweet wat is daar nog om te verbeter, sy het gesien wat kan sy wegneem en leer, ook om te deel met ander skole, sy het waarde bygevoeg. En ek moet sê, as jy sien hoe mense jou benader, sy het my met 'n positiewe houding benader en sy het vir my laat glo daar is lig aan die einde van die tunnel.

RJ: Verduidelik hoe belangrik die mentorsessies, beide op skool en die klustersessies, was?

T8: Dit was uitstekend. Goed. Uitstekend. Dit laat 'n mens die geleentheid gee om jou self te wees, in die sin dat dit wat jy leer, dit wat jy toepas, dit kan jy deel. Baie sosiale leer en ek voel opgewonde oor die kursus.

RJ: Reflekteer jy op jou eie onderrig? Indien ja, watter impak het dit op jou onderrig en leer? Indien nie, wat verhoed jou om dit te doen?

T8: Ja, baie, omrede dat dit wat ek self leer, wil ek nie vir myself hou nie.

RJ: Deel jy jou onderrigervaringe met jou kollegas? Is dit moeilik om dit met jou kollegas te doen?

T8: Ja. Kom ek sê vir jou, ons drie landelike skole in Tulbagh, hulle is die voedingskole vir die hoërskool. Ek het hulle genader en sê vir hulle hoe lyk die plan. En ek sê vir jou, toe die kinders die praktiese toepassing van sekere take gedoen het, was die benadering heel anders. Ek kan nie goed vir myself hou nie, kennis moet ek deel.

RJ: Voel jy dat jou onderrig verbeter kan word? Verduidelik. Voel jy dat daar 'n behoefte is om jou onderrig te verbeter? Verduidelik

T8: Ek glo dat elke dag is 'n leerdag, en as mense na my toe kan kom, sal ek haar aanvaar, want op die manier leer ek van sy en sy leer van my. My klas oop en ek is oop vir verandering.

RJ: Watter bronne gebruik jy of raadpleeg jy om jou onderrig te verbeter?

T8: Alhoewel daar handboeke is, is ek nie handboekgebonde nie. Ek vat goed wat onmiddelik vir die kind beskikbaar is, gebruik elke dag se goed. Bottels, games, newspapers ens. alledaagse goed om die konsep te ontwikkel, so na aan die realiteit van die kind wat werk.

RJ: Beskryf, indien wel, watter impak hierdie opleidingsprogram op jou onderrig en die wyse hoe jou studente in jou klaskamer leer, gehad het.

T8: Kom ek sê, dit het van my 'n veranderde mens gemaak. Dag na dag word 'n mens met kritiek beskou binne-in die professie. Dit het van my 'n veranderde mens gemaak, ek staan op met 'n lied in my mond. Ek gaan vandag met my kinders dit leer. So ek maak dit aangenaam vir hulle. Dit is 'n oop klas, niks vrees nie. Hierdie kursus het vir my so verander dat ek kan presies sien watter metodiek gaan ek vandag gebruik, hierdie kursus het my geheel en al verander. Ek bly elke dag positief en positief sorg dat ek is daar vir die kind. Dit het my praktyk heeltemal verander en die kinders leer veel beter. Daar is 'n vertrouensverhouding tussen my en die kind.

RJ: Die benadering wat gebruik word binne hierdie opleidingsprogram word die praktyk-gebaseerde benadering vir professionele onderwys leer genoem. As 'n deelnemer in hierdie program, wat verstaan jy onder hierdie benadering en wat was jou ervaring binne die konteks waar jy onderrig?

T8: Om eerlik waar te wees, ek het gevoel as of ek 'n graad doen. Ek voel belangrik, want ek voel nou deel van iets waar ek nie deel van gewees het nie. Ek was nuuskierig, ek wil graag meer weet. In die begin was ek negatief, maar hoe dieper ek my voet ingesit het, dit het vir my nuuskieriger gemaak. So, ek wil graag hê dat die universiteit hierdie ding global maak, veral vir onderwyser in Wiskunde moet dit verpligtend word, want dit berei jou weer voor, nie net om een plek stil te sit nie, berei jou voor vir masters en doktorale studies. Lifelong learning voorbereiding ... ek glo dit.

RJ: Kan jy enige voorstelle maak hoe hierdie benadering verbeter kan word?

T8: Universiteite moet kontak maak met opvoedkundige amptenare. 'n Band moet loop. My versoek is, as ek kan bid vir dit, as ons dit kan doen vanaf die jaar 2018, deel van die beplanning met amptenare en dit afwaarts vat ... vir ons kinders op 'n vlak kan kom, waar ons bo kan uit kom met die Wiskunde.

TEACHER 9

GENERAL INFORMATION

RJ: So we starting off with general information, then I'm going to ask you questions about the AHEC programme you were on last year. Just to clarify, you were on the math SP programme?

T9: That's right.

RJ: What are your current qualifications as a teacher?

T9: I have a BED Hons, then I got a further diploma in Education, then I actually started at Bellville College of Education with a teachers diploma.

RJ: Excellent. How long have you been teaching?

T9: This year will be my 28th year.

RJ: As a teacher, how important is professional development to you?

T9: Very, very important. And to clarify that, why it's so important, you see the trends around the world and you need to keep up with the trends, and that professional development actually help you become a better teacher, to be on par with the rest of the world.

RJ: Have you been on professional development programmes?

T9: Yes.

RJ: Describe some of the professional development programmes you have been on or attended.

T9: The one programme was with Judy O Connell, conduct to become a leader in school, actually help senior teachers to take a role as leaders at school. That was actually quite a nice one to see that you can become a leader. Don't wait for leaders to take the lead, you can take the lead. That was quite interesting on that course.

RJ: Apart from that one, have you been on any others that focus specifically on your teaching subject?

T9: Mathematics, yes. I was at the old Bellville College in Kuilsriver. I was actually on three such courses. When there was a course, I volunteered to go there. Yes, I was lucky and since 2006, I was at three such courses.

RJ: Describe how any of these courses impacted on your teaching.

T9: You see every time you finish a course you are so vibrant, so energetic to implement these strategies, the knowledge that you gain, into your daily conduct at school, it just energises you, puts you on another level to do your best.

RJ: So, it impacted you by being more energetic and more motivated?

T9: Ja, and even gave you a view on how you see stuff, because you engage with different types of people there and you learn a lot from other people, even your course when we were done. Misconceptions, I was also one of those who actually taught the misconception, but there I saw the new light and now how to deal with those misconceptions.

RJ: Ok, great. So, in your opinion then, this is more a general type of question, what is your opinion on professional development of teachers and is it a necessity?

T9: Indeed, I would say that it is a necessity. You see, especially when they say, I don't know, I did not test it yet ... that if you want to become a principal, you need to do an advanced course, so that you can be equipped. Prof dev courses are a necessity for teachers, I really skills them in many ways. I really, really think every teacher needs to go, especially when you have been in your job for three or five years in the job, you need to ... just to update professional development.

RJ: So, you attend professional development programmes, but what attracts you to a programme, to a professional development programme, what motivates you to go?

T9: My curiosity, I'm very curious to see ... what's in a course, what's going and if I can learn something more I'm very curious about learning, learning, learning.

RJ: Why, if I may ask?

T9: You see, I don't want to be the odd one out, I will want to know something. I want to be groomed all around. A utility person, even if they put me into that subject, I must know something about it, ... so ...

SUNCEP AHEC PROGRAMME

RJ: Okay, thank you so much for that. That ends the general information. Now we come more specific to the programme you were on. What is your understanding of the programme you were on last year? When you first saw it, what did you understand the SUNCEP AHEC programme, what did you understand by it?

T9: When I heard about it, that its going to be about Mathematics, I was willing and eager to go on, 'cause I have a passion for Mathematics, I like to do Mathematics, and to just engage with other Mathematics teachers, at that stage, it was not about the programme ... just to do about mathematics. It's a holiday, so why not?

RJ: We all like to do something, as mathematicians. OK then, you mentioned earlier on that you attended other maths programmes or courses. How did this learning programme compare to other learning programmes you participated in? How do they compare?

T9: Ja, this programme distinguished itself from all the other programmes. The other just feed you with tools, but this one was about misconceptions, what are the kids doing wrong and why? You see, the why was for me the most important part.

RJ: So, in other words, part of that was the misconceptions, and what other, if you had to look at how it was delivered?

T9: Yes, how to bring in the technology ... that was quite interesting. For me, especially.

RJ: Do you still have the tablet?

T9: Yes. It's one of my major tools. And now you can see? I was not even aware that you can use a tablet

RJ: OK. Alright. Are there any differences or similarities to the other training programmes you were involved in?

T9: Ja, similarities. You will always get learners who know more about you, that is, it's nice to learn from them. The difference, as I said, why are people doing things wrong in Mathematics and that was the major focus point for me. Just get to the why and not only: you did this wrong, you need to do it like that. To go deeper into why does the kid do it like that, and how we can correct those mistakes, so that there is no repeat.

RJ: So, you are saying we gave you the tools to improve your teaching in a way?

T9: That's right, that's right.

RJ: Those type of things. .OK, maybe you answered this one already, but did the training sessions address your content and pedagogical needs within the context of your own teaching?

T9: Indeed, indeed.

RJ: If so, how did it address these needs?

T9: You see, I immediately go back to my fellow colleagues, I tell them about the misconceptions that I pick up from the other learners, and I said I was not even aware, and I was also falling into that trap. But now I can help them to correct that.

RJ: OK. So, have you been able to practically implement your training in your classroom? All the training that we gave you, did you practically implement that in your classroom?

T9: I would say most of it, most of it. Some of it I did ... new things. I like taking it back to my school and just telling them about. "Did you ever come about this that and that and that ..." Even multiplication, especially when we did one of the sums ... why did it go wrong when doing this type of sum ... I explained it to the maths group at the school, and that was also an eye opener for them. Now they also realise that is the reason why kids are doing ...

RJ: You said that some of the stuff you could introduce and some you could not. What prevented you from doing that?

T9: Prevented? I would say I regard that as a higher grade ... that was not appropriate for those grades ... that was the reason why I did not implement that.

RJ: OK. Describe the role of your mentor. Did your mentor offer you any value in understanding the programme and implementing the programme in your classroom?

T9: I will say yes. She actually, when she visited me, gave me another angle on how to go about certain stuff ... and they were angles I was not aware of. She said maybe you should try this one. I know the kids did understand what to do, but you think maybe go that route, maybe just give me an explanation or why she said so. But she was very informative and very helpful.

RJ: Explain how important were the mentoring sessions. Remember, there were two mentoring sessions, she came to your school, and the cluster session. Explain how important those sessions were for you. If you can, talk about the one that was on school and the one in the cluster.

T9: Right. The cluster was quite ... because she briefed us what it is all about. You see, there wasn't, like curriculum advisors that come and sit, because know you are nervous and you don't know what they expect from you ... or you don't know what you expect from them and so on ... the cluster meetings were very much informative. She told us what she was coming to do and she was there for help and so on ... and the class visits were ... because I was quite aware of what she was coming to look for ... so I was quite comfortable with the session.

RJ: In terms of the importance, were they important for you for the course?

T9: That's right, that's right.

RJ: Do you reflect on your teaching?

T9: Every day.

RJ: If so, how does that reflection impact on your teaching and learning?

T9: On a daily basis, I reflect on what I'm doing as you need to reflect, because you can't do the same stuff over and over again, it becomes boring, because the kids are different each year. You will have the same class, but different types of kids, so you need to reflect on what and how you go about your teaching.

RJ: So the next question: do you share your teaching experience with your peers? Do you find this difficult to do?

T9: I do. They will always put a beginner teacher here with me. So, of course, I'm the subject head and grade head. They will always put the beginner teachers with me ... ja ... 'cause I said for the past 28 years I was mostly with Mathematics and they know my passion is for Mathematics.

RJ: Do you think that your teaching is in need of improvement?

T9: Ja definitely. I went the other day to a course about assessment, where one can use the electronic devices in your assessment. I was so excited after that just to see, the kids just put up paper and it shows how many kids got it right and that was amazing just to see that. You don't need to math. All the stuff comes onto your tablet and gives feedback even over the weekend when you sit there with the tablet.

RJ: When you want to improve your teaching, what resources do you use or consult if you feel there is a need to improve on something?

T9: I ... the...electronics ... I think that is the way to go these days. Kids are into electronics and they understand it, and they want to deal with it and that is the way to go ...and I'm not there yet, I am really not there yet. Kids can show me much more about electronics, but that is the way to go.

RJ: Describe, if any, what impact this training programme (AHEC) has made on how you teach, and the way your learners learn in the classroom.

T9: As I said, this course was an eye opener ... to go about and ... say I have 28 years of teaching experience and what can you tell me about the subject or how to teach, but just to come back to these type of courses: to see what is going on, then you decide that you need actually more ... it gives you that hunger for more ... to gain and I will always go about it and tell kids and I am the convener of the kids struggling in maths. So, this actually gives me tools on how to go about working with them, because they are in much smaller groups to work with, I definitely implement it there because I pick it up mostly in those types of groups, the misconceptions and other stuff.

RJ: Now we come to the crux of this interview. The approach used in this training programme is called the practice-based approach to teacher professional learning. In other words, the way we present the course, there was a contact session, then mentoring the other contact session. Now that you have been through this training programme using this approach, what is your understanding of this approach and what were your experiences, in the context of where you are teaching? How do you now understand this approach and what were your experiences in the context of your teaching?

T9: Can I just ... before coming to answer the questions, let me take another route.

RJ: You can take as many routes as possible.

T9: Especially the WCED, many of our teachers said they come and tell us what to do, they can't expect of us to do that now, but they must first come and tell me nothing right and nothing is wrong ... now at this approach, the mentor first meets and tell us the expectations. Now you can deal and talk to her and ask questions and stuff, then you come to this course and now you see this course is about this, you pick up the points of interest and then you need to go back and then the mentor asks how it is, was anything on the course different, then you can pick up and give feedback, and that was very interesting. Mentoring, course, feedback, that is the interest, the model of the course was actually correct for me.

RJ: So, based on that, could you offer any suggestions that may improve this approach?

T9: Not quite sure what I was writing there, but I definitely wrote something there. I think that was about ... not 100% sure, but if we can get all courses to deal with what we are doing wrong and sometimes we are not aware of that we are doing it wrong, so just make us aware of how to deal with that.

RJ: Thank you very for your time and your honesty with regards to this.

References

- Agassi, J. 1975. Institutional individualism. *The British Journal of Sociology*, 26(2):144–155.
Retrieved from
<http://www.jstor.org/stable/pdf/589585.pdf?refreqid=excelsior%3A49179c71e1ee669388a1880901480458> [29 January 2016].
- Ambrosini, V. & Bowman, C. 2001. Tacit knowledge: Some suggestions for operationalization. *Journal of Management Studies*, 38(6):811–829. Retrieved from
<http://dspace.lib.cranfield.ac.uk/handle/1826/961> [14 August 2015].
- Avalos, B. 2011. Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher Education*, 27(1):10–20. doi: 10.1016/j.tate.2010.08.007
- Babbie, E. & Mouton, J. 1998. *The practice of social research*. Ninth edition. Cape Town: Oxford University Press.
- Ball, D. & Bass, H. 2000. Interweaving content and pedagogy in teaching and learning to teach: Knowing and using mathematics. In J. Boaler (ed.). *Multiple perspectives on the teaching and learning of mathematics*. WestPort, CT: Ablex, 83–104.
- Ball, D.L. 2000. Bridging practices: Intertwining content and pedagogy in teaching and learning to teach. *Journal of Teacher Education*, 51(3):241–247.
- Ball, D.L. 2002. Toward a practice-based theory of mathematics knowledge for teaching. In E. Davis & E. Simmt (eds.). *Proceedings of the 2002 Annual Meeting of the Canadian Mathematics Education Study Group*. Edmonton: Canadian Mathematics Education Study Group, 3–14.
- Ball, D.L. & Cohen, D.K. 1999. Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling-Hammond (ed.). *Teaching as the learning profession: Handbook of policy and practice*. San Francisco: Jossey Bass, 3–22.
- Barnes, B. 2001. Practice as collective action. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 25–36.
- Bazin, Y. 2010. The practice perspective, a field under tension. In *26th EGOS Waves of Globalisation Colloquium*, Lisbon, 1–10.
- Biesta, G.J. 2014. *The beautiful risk of education*. New York: Paradigm.
- Bilbao-Osorio, B., Dutta, S. & Lanvin, B. 2014. *Global information technology report 2014*. Retrieved from <http://reports.weforum.org/global-information-technology-report-2014/> [14 April 2015].
- Billett, S. 2010. Learning through practice. In S. Billett (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 1–20.

- Bloor, D. 2001. Wittgenstein and the priority of practice. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 103–114.
- Boud, D. & Middleton, H. 2003. Learning from others at work: Communities of practice and informal learning. *Journal of Workplace Learning*, 15(5):194–202.
- Boud, D. & Rooney, D. 2011. A practice approach to studying professional learning: “Can’t get no satisfaction.” Retrieved from https://scholar.google.co.za/scholar?q=practice+approach+to+professional+learning+can%27t+get+no+satisfaction%2C+Boud&btnG=&hl=en&as_sdt=0%2C5 [21 January 2015].
- Brown, S. & Duguid, P. 2015. Knowledge organization: A social-practice perspective. *Organization Science*, 12(2):198–213. Retrieved from <http://www.jstor.org/stable/3086055> [13 August 2015].
- Bryman, A. 2008. *Social research methods*. Third edition. Oxford: Oxford University Press.
- Bunge, M. 1979. A systems concept of society: Beyond individualism and holism. *Theory and Decision*, 10(1):13–30. Retrieved from <http://link.springer.com/article/10.1007/BF00126329> [2 December 2015].
- Carr, W. 2004. Philosophy and education. *Journal of Philosophy of Education*, 38(1):55–73.
- Carr, W. 2005. The role of theory in the professional development of an educational theorist. *Pedagogy, Culture & Society*, 13(3):333–346.
- Carr, W. 2006. Education without theory. *Journal of Educational Studies*, 54(2):136–159. Retrieved from <http://www.jstor.org/stable/3699253> [1 July 2016].
- CDE (Centre for Development and Enterprise). 2015. *Teachers in South Africa: Supply and demand 2013–2025. Executive summary*. Retrieved from <http://www.cde.org.za/teacher-supply-and-demand-2013-2025/> [20 April 2015].
- Chisholm, L. 1999. The democratization of schools and the politics of teachers’ work in South Africa. *Compare: A Journal of Comparative and International Education*, 29(2):111–126.
- Chisholm, L. 2005. The state of South Africa’s schools. In J. Daniel (ed.). *State of the Nation South Africa 2004–2005*. HSRC Press, 201–226. Retrieved from http://books.google.com/books?hl=en&lr=&id=c8acdGMyAAQC&oi=fnd&pg=PA201&dq=provincial+budgets+south+africa&ots=cZuszfe_1H&sig=VmoAutwHcWd1uIOzHrwc45EnRG4 [24 September 2015].
- Christie, P. 1991. *The right to learn*. Second edition. Cape Town: Ravan Press.
- Christie, P. 2006. Changing regimes: Governmentality and education policy in post-apartheid South Africa. *International Journal of Educational Development*, 26(4):373–381.
- Collins, H. 2001. What is tacit knowledge? In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 115–128.

- Coombs, J.R. & Daniels, L.R.B. 1991. Philosophical inquiry: Conceptual analysis. In E.C. Short (ed.). *Forms of curriculum inquiry*. Albany NY: State University of New York Press, 27–42.
- Corradi, G., Gherardi, S. & Verzelloni, L. 2010. Through the practice lens: Where is the bandwagon of practice-based studies heading? *Management Learning*, 41(3):265–283.
- Creswell, J.W. 2003. *Research design: Qualitative, quantitative and mixed methods approaches*. Second edition. London: Sage.
- Creswell, J.W. 2009. *Research design: Qualitative, quantitative and mixed methods approaches*. Third edition. London: Sage.
- Cross, M., Mungadi, R. & Rouhani, S. 2016. From policy to practice: Curriculum reform in South African education. *Comparative Education*, 38(2):171–187. Retrieved from <http://www.jstor.org/stable/3099783> [14 December 2016].
- Dauids, N. 2015. On the un-becoming of measurement in education. *Educational Philosophy and Theory*, 49(4):422–433.
- Dauids, N. & Waghid, Y. 2017. Educational theory as rhythmic action: From Hannah Arendt to Giorgio Agamben. *South African Journal of Higher Education*. 31(5): 1 – 13.
- DBE (Department of Basic Education). 2015. *Report on the annual national assessment of 2014*. Retrieved from http://www.saqa.org.za/docs/rep_annual/2014/REPORT%20ON%20THE%20ANA%20OF%202014.pdf [2 December 2015].
- DBE (Department of Basic Education). 2014. *National Senior Certificate examination 2014 technical report*. Retrieved from <http://www.education.gov.za/LinkClick.aspx?fileticket=5nWkeqFfYgM=&tabid=358&mid=1325> [2 December 2015].
- DBE (Department of Basic Education). 2015. *2015 National Senior Certificate examination report*. Retrieved from http://www.ecexams.co.za/2015_Nov_Exam_Results/2015%20NSC%20Technical%20Report.pdf [27 January 2017].
- DBE (Department of Basic Education). 2016. *2016 National Senior Certificate report*. Retrieved from http://www.ecexams.co.za/2016_Nov_Exam_Results/2016%20NSC%20School%20Subject%20Report.pdf [27 January 2017].
- DoE (Department of Education). 2000. *Norms and standards for educators*. Retrieved from <http://academic.sun.ac.za/mathed/174/NORMS%20AND%20STANDARDS%20FOR%20EDUCATORS.pdf> [17 March 2015].

- DoE (Department of Education). 2004. *White Paper on e-Education, South Africa*. Retrieved from <https://www.education.gov.za/Portals/0/Documents/Legislation/White%20paper/DoE%20White%20Paper%207.pdf?ver=2008-03-05-111708-000> [23 March 2017].
- Eberle, T.S. 2014. Phenomenology as a research method. In U. Flick (ed.). *The Sage handbook of qualitative data analysis*. London: Sage, 184–203.
- Elkjaer, B. 2005. Social learning theory: Learning as participation in social processes. In M.A. Easterby-Smith (ed.). *The Blackwell handbook of organizational learning and knowledge management*. New York, NY: Blackwell, 38–53.
- Equal Education. 2015. *On the 2014 matric results*. Retrieved from <https://www.equaleducation.org.za/article/2015-01-07-on-the-2014-matric-results> [2 December 2015].
- Eraut, M. 2010. Knowledge, working practices, and learning. In S. Billet (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 37–58.
- Golafshani, N. 2003. Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4):597–607. Retrieved from <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf> [30 January 2017].
- Guest, G., Namey, E. & Mitchell, M.L. 2013. *Collecting qualitative data: A field manual for applied research*. London: Sage.
- Hardy, I.J. 2012. Researching professional educational practice : The case for “dirty theory.” *Educational Theory*, 62(5):517–533.
- Hirst, P. & Peters, R. 1970. *The logic of education*. London: Routledge.
- Hirst, P.H. 1963. Philosophy and educational theory. *British Journal of Educational Studies*, 12(1):51–64. Retrieved from <http://www.jstor.org/stable/3118921> [11 June 2016].
- Hirst, P.H. & Peters, R.S. 2001. Education and philosophy. In P.H. Hirst & P. White (eds.). *Philosophy of education. Major themes in the analytic tradition. Volume 1: Philosophy and education*. London: Routledge, 27–38.
- Imig, D. & Switzer, T. 1996. Changing teacher education programs: Restructuring collegiate-based teacher education. In J. Sikula (ed.). *Handbook of research on teacher education*. Second edition. New York, NY: Macmillan, 213–226.
- Jansen, J.D. 1998. Curriculum reform in South Africa: A critical analysis of outcomes-based education []. *Cambridge Journal of Education*, 28(3):321–331.
- Jansen, J.D. 2001. Rethinking education policy making in South Africa: Symbols of change, signals of conflict. In A. Kraak (ed.). *Education in retrospect policy and implementation since 1990*. Pretoria: HSRC Press, 41–57.

- Johnson, R.B. 1997. Examining the validity structure of qualitative research. *Education*, 118(2):282-292.
- Kahn, S. & Zeidler, D.L. 2017. A case for the use of conceptual analysis in science education research. *Journal of Research in Science Teaching*, 54(4):538–551.
- Kemerling, G. 2005. *Concepts*. Retrieved from <https://plato.stanford.edu/entries/concepts/> [14 March 2018].
- Kemmis, S. 2011. What is professional practice? Recognising and respecting diversity in understandings of practice. In C. Kanes (ed.). *Elaborating professionalism: Studies in practice and theory*. London: Springer, 1–31.
- Kennedy, M. 2016. Parsing the practice of teaching. *Journal of Teacher Education*, 67(1):6–17. doi: 10.1177/0022487115614617
- Korthagen, F., Loughran, J. & Russell, T. 2006. Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, 22(8):1020–1041.
- Korthagen, F.A.J. 2001. Linking practice and theory: The pedagogy of realistic teacher education. *Annual Meeting of the American Educational Research Association*. Seattle. Retrieved from <https://pdfs.semanticscholar.org/be40/15bb54daa4d71a56236e5b0f0e8b4f02e9d9.pdf> [20 June 2015].
- Korthagen, F.A.J. & Kessels, J.P.A.M. 1999. Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher*, 28(4):4–17. Retrieved from <http://www.jstor.org/stable/1176444> [23 November 2015].
- MacIntyre, A. & Dunne, J. 2002. Alasdair MacIntyre on education: In dialogue with Joseph Dunne. *Journal of Philosophy of Education*, 36(1):1–19. doi: 10.1111/1467-9752.00256
- Maggetti, M., Gilardi, F. & Radaelli, C. 2015. Conceptual analysis. In *Designing research in the social sciences*. London: Sage, 21–41.
- Maxwell, J.A. 2013. *Qualitative research design: An interactive approach*. Third edition. Los Angeles: Sage.
- McMillan, J.H. & Schumacher, S. 2006. *Research in education: Evidence-based enquiry*. Sixth edition. Boston: Pearson.
- Merriam, S. 2009. *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Morrow, W. 2007a. *Learning to teach in South Africa*. Pretoria: HSRC Press.
- Morrow, W. 2007b. What is teachers' work? *Journal of Education*, 41(1):3–20.

- Mullis, I.V.S., Martin, M.O., Foy, P. & Arora, A. 2012. *TIMSS 2011 international results in mathematics*. Amsterdam: International Association for the Evaluation of Educational Achievement.
- Myres, K. 2013. Semi-structured interviewing. PowerPoint presentation. University of Cape Town.
- Naidoo, S. 2014. AHEC Research Operational Framework. Unpublished article. AHEC programme. Stellenbosch: SURMEPI, Faculty of Health Science, Stellenbosch University.
- NEEDU (National Education Evaluation and Development Unit). 2012. *National Education Evaluation and Development Unit 2012 report*. Retrieved from <http://www.saga.org.za/docs/papers/2013/needu.pdf> [23 October 2015].
- Noddings, N. 2003. Is teaching a practice? *Journal of Philosophy of Education Society of Great Britain*, 37(2):241–251.
- Oliver, P. 2013. The conceptual range of a research study. *Understanding the research process*. London: Sage, 16–29.
- Ornstein, A.C. & Hunkins, F.P. 2004. *Curriculum: Foundations, principles and issues*. Fourth edition. New York: Pearson.
- Peters, R.S. 1966. *Ethics and education*. London: George Allen and Unwin.
- Peters, R.S. 1967. What is an educational process? In R.S. Peters (ed.). *The concept of education*. Routledge, 1–16. Retrieved from [http://libepl.um.ac.ir/parameters/libepl/filemanager/ebook/e1/vijeh nashr 14/The Concept of Education \(978-0415562539\).pdf](http://libepl.um.ac.ir/parameters/libepl/filemanager/ebook/e1/vijeh%20nashr%2014/The%20Concept%20of%20Education%20(978-0415562539).pdf) [23 June 2015].
- Polanyi, M. 1966. *The tacit dimension*. Chicago: University of Chicago Press.
- Raelin, J. 2007. Toward an epistemology of practice. *Academy of Management Learning and Education*, 6(4):495–519.
- Rancière, J. 1991. *The ignorant schoolmaster*. Stanford: Stanford University Press.
- Robinson, M. 2002. Teacher reforms in South Africa: Challenges, strategies and debates. *Prospects*, 32(3):289–299.
- Robinson, M. 2003. Teacher education policy in South Africa: The voice of teacher educators. *Journal of Education for Teaching*, 29(1):19–34.
- Roth, W.M. 2010. Learning in praxis, learning for praxis. In S. Billet (ed.). *Learning through practice: Models, traditions, orientations and approaches*. London: Springer, 21–36.
- Ryle, G. 1945. Knowing how and knowing that: The Presidential Address. In *Proceedings of the Aristotelian Society*, 1–16. Retrieved from <http://www.jstor.org/stable/4544405> [8 January 2015].
- Saugstad, T. 2002. Educational theory and practice in an Aristotelian perspective. *Scandinavian Journal of Educational Research*, 46(4):373–390.

- Schatzki, T. 2001. Introduction: Practice theory. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 10–23.
- Schatzki, T. 2007. Introduction. *Human Affairs*, 17(2):97–100. Retrieved from <http://www.degruyter.com/view/j/humaff.2007.17.issue-2/v10023-007-0009-6/v10023-007-0009-6.xml> [21 April 2017].
- Schoenfeld, A.H. 1999. Looking toward the 21st century: Challenges of educational theory and practice. *Educational Researcher*, 28(7):3–14. Retrieved from <http://www.jstor.org/stable/1176136> [18 May 2016].
- Schulman, L.S. 1983. Autonomy and obligation-the remote control of teaching. In L. Schulman (ed.). *Handbook of teaching and policy*. New York, NY: Longman, 484–504.
- Smeyers, P. & Burbules, N.C. 2006. Education as initiation into practices. *Educational Theory*, 56(4):439–449.
- Spaull, N. 2013. *South Africa's education crisis: The quality of education in South Africa 1994–2011*. Centre for Development and Enterprise. Retrieved from <https://pdfs.semanticscholar.org/8284/240c243cbd0172ee1451486af141f3fd2e09.pdf> [17 March 2015].
- Stenbacka, C. 2001. Qualitative research requires quality concepts of its own. *Management Decision*, 39(7):551–556.
- SU (Stellenbosch University). 2013. *Stellenbosch University Institutional Intent and Strategy: 2013–2018*. Retrieved from <http://www.sun.ac.za/english/management/rector/Documents/Institutional Intent and Strategy 2013-2018.pdf> [23 March 2017].
- SUNCEP (Stellenbosch University Centre for Pedagogy). 2013. Rules of the Stellenbosch University Centre for Pedagogy (SUNCEP/SUNSEP), Faculty of Education, Stellenbosch University. Available on request.
- . SUNCEP (Stellenbosch University Centre for Pedagogy). 2018. Strategic Plan 2018 to 2022, Faculty of Education, Stellenbosch University. Available on request.
- Thomas, G. 1997. What's the use of theory ? *Harvard Educational Review*, 67(1):75–104.
- Timperley, H. 2008. Teacher professional learning and development. Educational Practices Series, 18. UNESCO International Bureau of Education. Retrieved from http://edu.aru.ac.th/childedu/images/PDF/benjamaporn/EdPractices_18.pdf [21 January 2015].

- Turner, S. 2001. Throwing out the tacit rule book: Learning and practices. In T.R. Schatzki (ed.). *The practice turn in contemporary theory*. London: Routledge, 129–139.
- Van der Berg, S., Spaul, N., Wills, G., Gustafsson, M. & Kotze, J. 2016. *Identifying binding constraints in education*. Retrieved from http://resep.sun.ac.za/wp-content/uploads/2016/06/PSPPD_BICiE-email-01062016.pdf [20 September 2016].
- Waghid, Y. & Davids, N. 2017. *Philosophy and education as action-implications for teacher education*. Lanham, MD: Lexington Books.
- Webster-Wright, A. 2009. Reframing professional development through understanding authentic professional learning. *Review of Educational Research*, 79(2):702–739.
- Whan, M. 1986. On the nature of practice. *British Journal of Social Work*, 16(2):243–250. Retrieved from <http://www.jstor.org/stable/23705272> [22 July 2011].
- Zulkardi, 1999. How to design mathematics lessons based on the realistic approach? *RME, Realistic Mathematics Education*: 1–17. Retrieved from <http://eprints.unsri.ac.id/692/1/rme.html> [30 December 2010].